Issue 135 • 8th June 1991 • 88p

TONS OF TIPS FOR YOUR MACHINE
see pages: 16-27, 30, 32-33, 46-47...

NEW COMPUTER EXPRESS

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

THEY'RE BACK!

8-bit is re-born. With a bang – or just a whimper? See page 5

ATARI

AMAZING TT

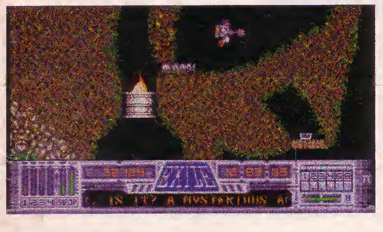
We put the ST's big brother to the test!

AMIGA

SAVE £100!

Is this the best pack for you?

GAMES



EXILE

Is this the future of arcade games?

THE PANTHER IS BLOWN TO 64-BITS

We reveal Atari's next games machine on page 7

SO YOU THOUGHT *YOURS* WAS ODD!

The things people do with their computers - page 55

Future PUBLISHING
Your guarantee of value

Frontend

Up front with no messing – Frontend brings you the intriguing, exasperating and generally conversation making pieces of news from the other side of the chip.

VIRGIN'S LAY OFF

• A happy, smiling Richard Branson, founder of Virgin Games saying: "Cheers then lads and thanks for everything. Trebles all round."

The strangest press release ever turned up on the news desk this week. It came from Virgin Games, and Frontend has the most sneaking suspicion that it was not written in the best of humour. Here, in its viperish entirety is the text:

"VOMIT – you probably will if you join us to celebrate the redundancies of three loyal, loving, and long-serving staff.

"Virgin Games will be having a mega (*the manuscript is unclear here*) on June 7th ... probably all day, but from 6pm for any of you who have jobs.

"So if you want to get totally wrecked, get your act together and get your arses to the Castle to say goodbye to Nigel, Alex and Nicole."

Frontend assumes while the wine will flow freely, an element of sour grapes might marr the taste. Any readers who wish to join in should go to Holland Park tube, turn right and enter The Castle at their peril. ■

Gazza lynx in the midfield

• Gazza could be using his heavy blocks to greater advantage using an Atari Lynx and playing Klax.

Even before Paul 'It was all my fault' Gascgoine had time to emerge from beneath the magic sponge, Atari pounced on him with a free Lynx.

The Sun reported that Gazza gets so bored in his hospital bed that he phones team mates up at 2am. He also has spells of panic reminiscent of other players who see him bearing down on them with studs to the fore. Atari's gift of a colour handheld games machine is aimed at stopping the boredom, and ensuring the panic attacks are confined to escaping from tight game situations.

Gazza could be playing right now include California Games, which involves kicking a bean-bag among other events, Klaxx a game entailing using a load of heavy, but well timed, blocks, and Slime World. ■

SUGAR DADDY

Alan Sugar, who likes to keep publicity for his charitable donations to a minimum, has slipped up. His company, Amstrad, has just given away a brace of PC2286s.

The philanthropic gesture came as a result of the Kurdish refugee appeal. The PCs were delivered to the Red Cross Kurdish Refugee Apeal in Belgravia.

They are destined to cope with the massive amount of work which has accrued from the Wembley concert which included musicians such as rap-star and trouser man MC Hammer, recently recovered chanteuse Gloria Estefan, Old pros New Kids on the Block, and professional fund raiser Sting.

The gig raised £1.5 million in the UK and is expected to make £10 million by the time all the cash has been counted in, or rather spreadsheeted now that the Red Cross has the PCs. ■

• Sugar: there is only one thing he doesn't like to make a big deal about – charity. The press is also fairly reticent to give the man his due for the contributions made to needed causes, until now that is.

Bouncing into summer

• Basket ball simulators are as big in the US as the players are on court . Now a new sim is out from the company which brought the world Kick Off.

Anco, the publishers of *Kick Off, Player Manager*, and *Kick Off II* is to publish *Tip Off*, a basketball simulation.

The game will be the second part in a range of sporting sims all of which will be bound together using of overhead views, fast accurate action, and the word 'Off' at the end of their titles.

When finally released the game will only be available on the Nintendo Entertainment System (NES).

Happily though, a follow up to *Player Manager* for computer systems is being coded right now.

GET REAL! • GET REAL! • GET REAL! • GET REAL! •

WINDY CITY

The first birthday party for Windows 3 was a held at Comdex last week and was a rock and rolling affair. Manic rockers(??) Chicago appeared to add 'youth' to the event. Obviously Bill Gates, Microsoft CEO, prefers another type of music. He didn't show up.

T FOR YOU

Programming can be, hip and trendy. Borland, which publishes *Turbo* C and C++ programming packs has decided to give away T-shirts to fashion conscious programmers.

All you have to do to gain this sartorial splendour is to write to Borland Promotion, The Software Construction Company Ltd, 1 The Maltings, Green Drift, Royston, Herts SG8 5DB. By the way, there is also another offer. Borland distributors The Software Construction Company is offering the £100 Borland Runtime Library Source Code free if you buy either C++ for £233.82, or *Turbo* Pascal for Windows, which costs £151.57. ■

GET REAL! • GET REAL! • GET REAL! •

MICRO-CHEATS

Viewers of cable TV in New York city were illegally accessing unpaid for channels by inserting a micro-circuit into the cable converter box. The authorities got around the problem by shooting 'electronic bullets' down the cables to 'take out ' the illegal boxes and leave the good ones.

Computer star in a million

• Good public relations doesn't have to be a nasty, sleazy affair. Star Micronics proves this by donating its millionth printer to a group of Welsh scouts. Pictured here are Alice Griffiths (12), Jonathon Williams (15) and uniformed, Star's marketing director Roger Bayley (he wouldn't say how old he is).

Star Micronics has donated its millionth computer to the 1st Ebbw Vale Penuel Scout Group which is transforming the derelict hillside above Ebbw into a flowery dell.

The young people are working with the help of the Prince of Wales' Committee, and have already planted over 300 trees. The project is part of the town's 1992 garden festival. Once the hillside has been fully replanted it will be used as a campsite for other scout troops during the festival.

Star's kind act is very much in keeping with the theme of its The World and its Future project launched earlier this year among school children.

Commenting on the move, Star's marketing director Roger Bayley said: "We are delighted and honoured to be able to help support the Prince of Wales' Committee's environmental work in the most appropriate way we could". ■

Fabulous offers • Incredible quotes • Keyboard killers

TEN THINGS YOU DIDN'T KNOW ABOUT VIRTUAL REALITY

Yes, Virtual Reality (VR) is becoming OK to talk about in the real world. Computer users have been aware of the situation for some years now, but how are we to react when our non-computer using friends begin to drop names like Lanier, and Cyberpunk into the lunchtime conversation. Hit them with some well informed fact that's how. So, read on for the most current VR breakdown anywhere.

VIRTUALITY™
WORLD LAUNCH

1 If you want to enter VR at this stage in history you will need the following acoutrements: a DataGlove, an EyePhone, DataSuit, and a pair of Convolvotron headphones. Approx £28,000 for the full kit.

2 Names to drop virtually anywhere: Jaron Lanier (30-year-old VR guru with no academic qualifications whatsoever), Scott Fisher, (39-year-old founder of Virtual Environment Work Station Project at NASA), Ken Goffman aka R U Sirius (editor of 'cult' mag *Mondo 2000*), Marvin Minsky, hailed as the 'father of artificial intelligence.

3 Forget William Gibson and check out Rudy Rucker. Not only has he written one of the best VR books around, *Wetware*, he also programmed *C-Lab* on the PC.

4 Jaron Lanier's first game was a musical diversion called *Moon Dust* which was released in 1983. The money made from this enabled him to set up the now legendary VPL Corp (VPL does not stand for anything, fact fans, they were just the first three letters to pop into Lanier's head when interviewed by *The Scientific American*.

5 Talking of books, US publisher Harcourt Brace Jovanovich has just paid out a six figure advance to Jaron Lanier for what is bound to be one the most informative and ground breaking computer-related tomes since James Gleik's *Chaos*.

6 Two new outlooks on VR are 'CyberSex' and 'Teledildonics'.

7 The UK is well placed to profit from VR with one of the world's foremost research centres, the National Advanced Robotics Research Centre in Salford.

8 Matsushita in Japan is using a 'virtual kitchen' to demonstrate its products in a Tokyo shopping centre.

9 Art + Comm is using VR to re-design the Potsdammer Platz in Berlin.

10 US pilots 'flew' missions over a virtual Iraq before setting out on the real thing. ■

• Time is running out for the language of Dali. The European Commission has decided that thousands of years of culture simply do not meet the standards of a 102 key AT keyboard.

Tilde killed

The European commission has decided that the ancient Spanish language just does not match up to the demanding standards of the modern computer keyboard.

Spanish, which has been spoken and written by such famous historical figures as El Cid, Salvador Dali, Pablo Picasso, and the poet Lorcas, includes a letter N with a tilde character (ñ). This indicates the Ny sound.

The EC wants this to be dropped from keyboards on sale in Spain. While the reasons have not been stated they appear to be based on commerical pressures from computer manufacturers, as well as the idea that such a nationally specific lingustic style reflects badly on 'Europeaness'.

The request from the Brussels-based EC has resulted in both sharp shock and anger from the Spanish Ministry of Culture, the Royal Spanish Academy, and the Spanish Computer industry.

It also follows the decision made in France last year to drop the Ç character from its alphabet. ■

SHOOT FROM THE LIP

Just how do people in the insular world of computers talk, and write to each other? Do they make horrible mistakes? Do they produce comical statements? How many feet go into how many mouths in one week. FInd out in Shoot From The Lip.

'I hate to say it, but I can't help thinking that if there had been more people like Rik Haynes (former *Express* reviewer) *during World War II, him and the rest of his Nazi playmates would have been jackbooting their way up Oxford Street a long time ago'.*
Part of a debate about CDTV in a letter written by freelance journalist Gary Whitta to trade magazine *Computer Trade Weekly*.

'Similiar (Virtual Reality) applications will create 'virtual cadavers' for trainee surgeons, eliminating the need for human corpses'.
Simon Worral writing in the *Observer* colour supplement.

'The best security money can buy'. The sales blurb on the packaging of *DASH* (Duplicating And Security Handler) software. So secure that when we opened the package there was no disk inside.

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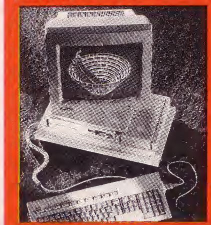

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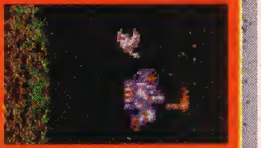

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Low cost, high quality printing

The BLP Elite printer offers fast, PostScript printing for the Macintosh at a fraction of the price of conventional lasers, according to its manufacturer GCC Technologies.

The Elite costs $1,599 and the company reckons that it has been able to achieve this price thanks to custom designed circuitry such as the printer's high speed 16.67MHz 68000 microprocessor. The result is print speed and quality that matches printers costing thousands more.

Supplied as standard with the BLP Elite are 17 PostScript fonts, 2Mb of RAM and built-in AppleTalk, so it can be used as part of a network. It prints at four pages per minute and GCC boasts that it has a 40 per cent faster processing time than the Apple Personal Laserwriter.

Software includes a specialised envelop printing program, *QuickEnvelope*.

GCC can be contacted on 0101-617-890-0880. ■

The battle for16-bit educational supremacy heats up

AMIGA PACK SLASHED £100

Commodore has whipped £100 off the price of its Amiga *Class of the '90s* - First Steps educational pack.

Many parents have been persuaded to invest in an Amiga for their kids by the quality of the bundle, which consists of a standard A500 with 512K RAM, TV modulator, tutor video and nine software programs. The price has now been cut to £499.

Speculation that the price-cut is a direct response to Atari's recently introduced £399 educational pack for the ST has been predictably denied by Commodore. Education products manager Peter Talbot said: "The pricing on the whole Amiga range has changed, especially with our £299 offer to schools. This just brings the *Class of the '90s* into line with those changes."

He added: "The bundle has been such a success that I felt it was crucial to keep the momentum going. Obviously I'm delighted that Atari should attempt to emulate what we're doing in the education sector, it's a tremendous compliment. But the real thing about education is being here all the time, and not just dipping in and out."

Both Commodore and Atari have spent a great deal of time and money attempting to woo both schools and parents by offering their machines with 'useful' programs such as word processors, paint packages and standard learning tools. Both have enjoyed moderate success, although neither looks capable of challenging Acorn's traditional domination of the market. ▩

class of the 90's
First Steps
• Commodore has reduced the price of its First Steps bundle. Is it merely a move made to spike the guns of Atari's Family Curriculum?

An offer you can't refuse?

Silica Systems is offering the Lotus *1-2-3* compatible spreadsheet, *MasterPlan* for £49. The software normally costs £129.

The offer is open to new purchasers of the Goldstar GT212 286 PC. *MasterPlan* operates under the GEM enviroment which is bundled free of charge, and offers all standard *1-2-3* functions except macros and databases.

The PC comes with 1Mb of RAM, a 40Mb hard disk, and either a 1.44Mb 3.5-inch floppy drive or a 5.25-inch 1.2Mb drive. The package costs £703. Call Silica on 081-309 1111. ▩

Big Blue has to slim down

Monster computer manufactucter IBM is slim down. Top brass at the world's largest company think it has become bloated and inefficient.

Tough talking chairman John Akers has appointed a team to reduce administration staff. Akers is anxious over IBM's loss of market share over the past six years. In 1985 Big Blue could boast a 35 per cent slice of the world computer market. Now it hangs on to 23 per cent. ▩

Super Famicom: UK launch looms

Nintendo finally launched its 16-bit , Super Famicom console outside Japan, at the Computer Entertainments Show (CES) in Chicago last week. It is priced at $169 - roughly £95.

In order to consolidate the vast market share it all ready has with the Nintendo Entertainment System (NES), the company has renamed the Famicom as the Super NES. Nintendo is also predicting sales of two million units before the end if this year.

The long awaited launch of a machine which has only previously been available outside Japan as a grey import bodes well for a UK release by Christmas.

While this is excellent news for British gamers, it has caused Nintendo's main competition in the console market to dramatically re-assess the place and price of their machines. Sega is to slash the price of its Mega Drive (known as the Genesis in the US) and re-bundle it with *Sonic the Hedgehog*.

NEC has also announced price cuts on both its basic TurboGrafx machine and a higher end bundle of console, the game *Bonk* and a multi-play unit.

Historically, price cuts and rebundling of machines across the Atlantic do not immediately hit the UK market, but gamers should be prepared for good news on both of these fronts around the Christmas period.

This news comes at a time when Atari is also expected to release a powerful new console called the Jaguar (see page 7). ■

Nintendo
SUPER FAMICOM
• The Super Famicom - or is it the Super NES? Nintendo seems to be confused , but Sega and NEC are not. They have cut the prices of consoles.

Accolade's excellent adventure

Bill and Ted are a couple of High School kids with terrible grades, and a seriously low popularity rating.

The two Californian pals can only compensate with some loud electric guitars, and an excellent time machine which they happen to stumble across. So, it's inside the telephone box-shaped gadget, and off to check out those dudes that made history.

The rock 'n' roll dreamers get to jam with a bemused Beethoven, freak out Socrates and utterly confuse Genghis Khan. And all this just to pass an history exam...

Accolade has signed up the computer rights to *Bill and Ted's Excellent Adventure*, which will be out on the Amiga and PC later this month. The animated arcade adventure will take you through 12 levels of time travel, featuring pictures and digitised voices from the hit film. Other forthcoming Accolade titles include Tom Clancy thriller *The Cardinal of The Kremlin*, and *Gunboat*. ▩

BRACE YOURSELVES AMIGOS FOR A MOST TRIUMPHANT VIDEO!
BILL & TED'S EXCELLENT ADVENTURE
• Bill and Ted: time travel frolics.

Windows backed by top firms

Borland and Lotus have both demonstrated new software running under Windows 3.0.

Donald Casey, vice president of Lotus' spreadsheet division said: "Clearly our goal is to have every major application that we publish available on Windows by the end of this year".

And John Mandell, project manager of Borland's object programming division, reckons: "There will be an explosion of new development tools, and we're committed to using object-oriented application tools to let people develop applications quickly for Windows".

Microsoft has shipped more than four million copies of Windows, but Lotus and Borland are adamnant that it is not just the volume of sales which has convinced them of the value of the system.

As Mandell says: "Windows applications are inter-operable. You can have different programs working together easily, so you can get the best out of each of the different products.

"This capability has made users ecstatic about Windows, but has made developers absolutely frantic." ▩

Faxing behind Windows

***EZ-Faxit* is a new Windows 3.0 fax management system from Calculus Inc.**

Calculus claims it requires as little as 4K of memory to run, so users should not find that memory is restricting their use of other programs. *EZ-Faxit* will convert a document to ASCII file format and send it to the fax machine for transmission. It can fax any fonts or graphics from a Windows application and is compatible with Bitstream's *Facelift* programs. The fax card is a self-configuring half card that does not use a communications port. It is available as a 4800 baud version at $299 or a 9600 baud version for $499.

Contact Calculus on 0101-408-733-7800. ▩

Amiga in the write

Amiga owners are to be offered a new word processor which operates under an easy-to-use windows environment.

Wordworth from Digita International sports a Workbench 2 "look and feel", but will work under Workbench 3. Up to 255 screen fonts are available and there's a dictionary and thesaurus included.

Wordworth has been written specifically for the Amiga (1Mb and up) and costs £129. For more information call 0395 270273.

• Wordworth for the Amiga. Windows on Commodore's prize machine? Apparently so.

Commodore's new machine can display Amiga standard graphics

THE 8-BITS ARE BACK

Commodore Business Computers (CBM) is secretly developing a new games machine called the C65 which is planned to fill the space between the C64 and 16-bit Amiga.

The heart of the C65 will be the 6502 chip, which all ready provides the processing power for CBM's successful, but ageing, C64 8-bit computer, and the 64GS console.

Although the basis of the C65 is 6502, Commodore has moved it up one gear from the C64 by making it compatible with the IFF graphics file format. This compatibilty means that graphics produced with desktop publishing or paint packages such as *Dpaint* can be ported over from the Amiga. Consequently, the C65 is able to support 4,096 colours on screen, as opposed to the 16 available to the C64.

When it is released it will come with a 3.5-inch disk drive as standard, and will be able to run all existing C64 games. No tape cassette compatibility is planned.

We asked Kelly Sumner, UK marketing manager for Commodore about the machine: "There's no smoke without fire", he said, "There certainly is a product codenamed C65, but Commodore has no plans to release it before Christmas. People have seen the machine, and it has even got to the stage when C65s have been sent out for testing".

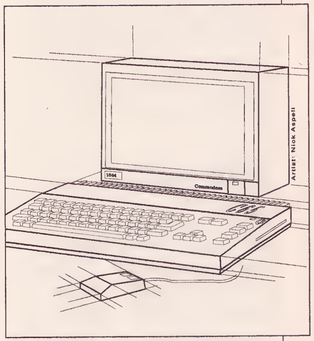
The 8-bit C64 has been a mainstay of the Commodore range of home computers since its launch in 1983. While its has been successful for the company, it has been undermined in popularity by the rise of 16-bit computers such as the Amiga.

In a bid to take it up market earlier this year, Commodore switched the C64 from cassette to cartridge, and also introduced the 64GS console. This left the company with no disk-based 8-bit games machine and allowed competing machines such as the Spectrum and Amstrad CPC to make the most of this market.

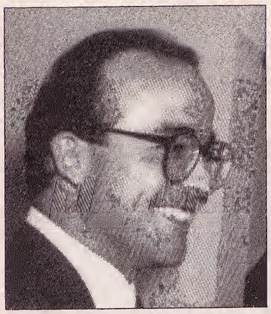
The C65, with its ability to show 4,096 colours allows Commodore to move back into this area with a vengeance.

However, Sumner is at pains to point out that the C65 is not an 8-bit Amiga. He said: "Although it is IFF compatible, it has no blitter chip".

The release date and price for the C65 have not be set as yet because, as Sumner notes: "It is not just a UK problem. Commodore in the USA really have the whip hand in these details. And although the machine can run C64 software, there would be no point in releasing it before there was a decent line in new software development to back it up". ▩



• An artists impression of the C65 - a mixture of C64 hardware and Amiga styling would give Commodore's new 8-bit machine an undeniable appeal in the floundering 8-bit games market.



• Kelly Sumner of Commodore commenting on the new machine: "There's no smoke without fire".

Not a C64 and not an Amiga – the blitter is the key

The C65 can reproduce Amiga standard graphics on its 4,096 colour screen, but it lacks a 'blitter' chip.

The word 'blitter' stands for Block Image Transferrer. In the Amiga it resides in the Agnus chip. The task of the blitter is to take care of the graphics, and image displays. It is able to move one 16-bit parcel of graphic information into memory every 280 nanoseconds. These pieces of information are then transferred to screen, where the blitter is capable of rendering them at 4,000 lines per second.

Confusingly for users, two years ago Commodore renamed the blitter as a 'blimmer' (Block Image manipulator), or 'bimmer' Bitmap Image Manipulator'. ■

Commodore users speak out

John Bickerstaff, Chairman ICPUG (The Independent Commodore Products User Group) is blandly sceptical about Commodore's latest machine:

"They have developed many products which have never seen the light of day. Some that did weren't as good as they should have been."

On whether it could be the saviour of the 8-bit market he said:

"It depends if the people who use the machines understand what an 8-bit machine can do. C64 software has been enhanced much beyond recognition of the early days of the C64 and the users have grown to expect much more. What the user is interested in is the BUS speed so perhaps Commodore has improved that."

"If they are going to press for colour then a suitable monitor is necessary. An ordinary television will just not be good enough." ■

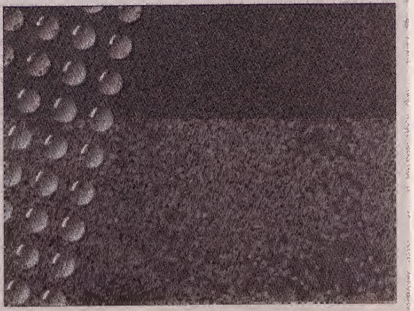
Get to the art of the matter

Five new libraries of full-screen encapsulated PostScript (EPS) files have been launched for the Mac.

Backgrounds of Multimedia , comprises 40 full-screen 8 and 24-bit colour images which can be used in a variety of applications including 3D rendering, Mac animations, and video. Each image comes in two sizes, 640 x 480, and 1875 x 1405 pixels.

Natural Images 1&2, features EPS graphics of water droplets, wood grain and marble; *Dimensions 1&2*, shows background images of ceramic tile, and futuristic grids; and *Potpourri*, shows graphics of confetti, 'splatters' and art deco patterns.

Backgrounds of Multimedia costs £280, *Natural Images 1&2* are £100 each, as are *Dimensions 1&2* and *Potpourri*. The *Full Page Images CD* costs £500. Call Artbeats on 081-200 8282. ■



• Spruce up your presentations or even your Mac screen with a new range of full-screen colour images.

Computer errors delay shuttle launch

The launch of the Space Shuttle Columbia last month was delayed by 24 hours owing to computer failures, NASA has revealed.

The first problem occurred in an interface between the shuttle's General Purpose Computers (GPU) and the craft's other systems. After failing an initial polling test, the whole system simply reset itself.

A second failure was detected in the number four GPU. The shuttle has four GPUs which run in parallel and compare results. If one GPU comes up with different figures to the other three, then it can be overridden and its figures ignored. Number four GPU was found to be producing incorrect data. While an in-flight failure would not have jeopardised the mission, NASA explained that the error had to be investigated. ▩

NIBBLES

Mighty oaks

Recession what recession? UK-based Acorn is to sell 1.57 million shares in the troubled optical storage company Literal, to Italian Olivetti. This represents a 4.58 per cent holding in Literal, and will make Acorn £1 per share profit. Literal reported a $6.1 million loss over the last nine months.

Virus info

A bi-weekly database of virus information is to be released as shareware. The PC-Virus Index, as used by Scotland Yard, from Hove-based Clough and Partners has been compiled over the last 18 months with help from London University. Subscriptions cost £20 a year for individuals or £195 for a site licence.

Wrist aid

Compurest is a low pressure wrist pad produced by USA-based Ergonomic Designs which helps relieve Repetitive Strain Injury (RSI). Costing $35, it fits around your wrist and distributes arm weight over the maximum possible surface area. The company claims this reduces wrist distortion which leads to RSI. Over 147,000 cases of RSI were reported in the US last year and it accounts for 52 per cent of occupational illnesses.

Chemical spill

Nineteen Hitachi employees fell ill following a chemical spillage at the company's Oklahoma premises last week. The chemical involved, 1,1,1-trichloroethane, is used in the cleaning of circuit boards. Hitachi claims that its hazardous materials team responded rapidly to clear up the spill. However, a few hours later 19 members of staff suffered headaches, nausea and breathing difficulties. All were admitted to hospital, but have since been discharged.

Apple layoffs

Apple US is to cut 1,560 jobs – 10 per cent of it's workforce – in this financial quarter. The redundancies will be across the board and will include some management positions and a restructuring of the company. The cuts have come about, Apple claims, because, with the success of the Classic, its market profile has changed from dealing in high profit margins to being a volume dealer.

Philips signs Super Mario and Princess Zelda

NINTENDO DEAL BOOSTS CD-I

Nintendo, the world's largest producer of video games, has agreed to produce titles based on its most famous characters for Philips' Compact Disc Interactive (CD-I) computer system.

At the Second International CD-I conference in London last week Philips announced the deal with Nintendo. When CD-I machines become available in Japan and the US later this year, and Europe next year, games based on *Super Mario*, *Princess Zelda*, *Link* and *Donkey Kong* will be ready.

All the characters have enjoyed phenomenal levels of success in the US through Nintendo's remarkable take-over of that country's video entertainment market. CD-I, endorsed by such major names as Sony and Matsushita, makes use of Compact Disc technology and is being heralded as the most important computer launch since IBM unveiled the Personal Computer in the early 1980s.

The machine is as easy to use as a games console, but is many times more versatile and useful. Dozens of interactive programs based on education and entertainmen are nearing completion. The Nintendo characters will join such familiar names as Time-Life, ABC Sports, Panini and even Sesame Street.

Robert Maxwell called CD-I "a publishing revolution" and predicted that it would make him "a lot of money"

American Interactive Media (AIM), the principal developer of CD-I titles, will develop and market the Nintendo games, while paying the Japanese company a generous royalty fee.

Nintendo estimates that one in three US households owns a Nintendo Entertainment System – *Super Mario* is now more recognisable to American children than Mickey Mouse or Ronald MacDonald.

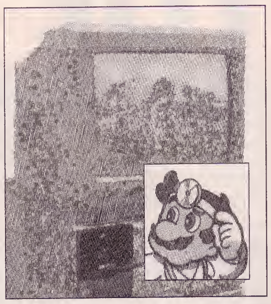
Philips is clearly pleased with its scoop; the firm aims to make CD-I the standard home computer format of the next decade, and is playing with Nintendo–style sales projections. Dr Bernie Luskin, president of AIM, commented: "We're delighted that these favourite video games characters will be available on Compact Disc Interactive. By joining the impressive line-up of popular figures and properties already included in AIM's CD-I title catalogue, they will further increase the appeal of our product line."

He added: "The technology will bring a level of interaction and realistic gameplay with titles featuring the Nintendo characters, never previously experienced by Nintendo fanatics."

Over a thousand delegates from around the world were in London to check up on the latest developments in CD-I, and all left with high expectations.

Speaking at the conference, publishing magnate Robert Maxwell called CD-I "a publishing revolution" and predicted that it would make him "a lot of money". Some had pointed to Philips apparent disregard for the grass roots video entertainment business as a basic flaw in its strategy. Rival Commodore has made good progress in signing up computer and video games producers for its CDTV system. But Philips' signing of Nintendo must be seen as the most important hardware/software collaboration of recent years.

● Next week you can catch up on all the latestCD-I news in our special feature. Don't miss it...



• Super Mario – more familiar to US children than Mickey Mouse – gets himself on CD-I.

New claim in copy cat suit

Apple has produced new evidence to support its copyright complaints against Microsoft and Hewlett-Packard, and has included the successful Windows *3.0* and New Wave 3.0 products in the suit.

The case, which began in 1988, centres on a licence signed in 1985 by Apple which allowed Microsoft to use elements of the Macintosh front end display in its software developments, such as Windows. Apple feels that Microsoft has overstepped the limit.

The new evidence includes threats made by Microsoft to stop Macintosh developments, as well as a verbal statement from Microsoft in which it "implicitly promised" that later versions of Windows would resemble the Macintosh front end less.

Apple is requesting that the court scraps the original licence, which has been described by presiding Judge, Vaughn Walker, as a "poorly written contract".

The current series of hearings will determine whether the case will proceed to a jury trial, as Apple would like, or if it will be dismissed. The next hearing takes place on 14 June.

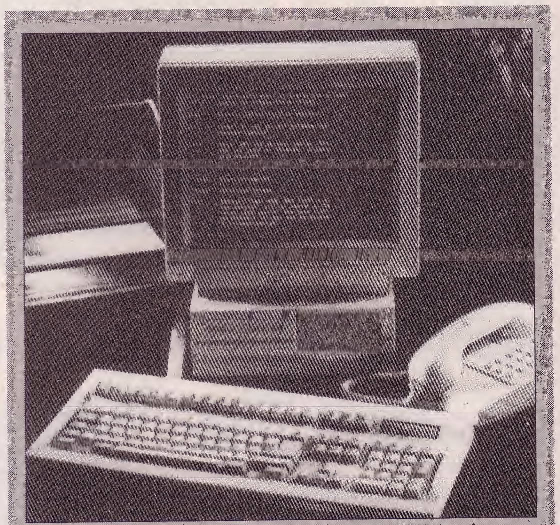
IBM cuts prices on PS/2

IBM is cutting the prices of several of its Personal System/2 (PS/2) models from between 6 per cent to 24 per cent in the US.

The cuts range from$220 for the the Model 30 286 with 1Mb of RAM to $2,800 for a 25MHZ 386 with a 320Mb hard disk.

These cuts follow similar price cutting measures made by IBM rivals Compaq, Texas Instruments and Dell.

Industry observers see these cuts as part of a natural development to make room for the new 486SX machines which IBM has just begun to produce.



• Put your business on the right track with a Xerox XT PC package.

PC for under £300?

The Xerox XT is a complete and adaptable PC package for just £299. Supplied with a 3.5-inch floppy drive, 640K of RAM, a mono monitor, keyboard and MS DOS 3.2, its distributor, Crown Computer Products, reckons that it is perfect for educational purposes and small businesses. Crown can be contacted on 0704 895815.

Imagine all the Archies

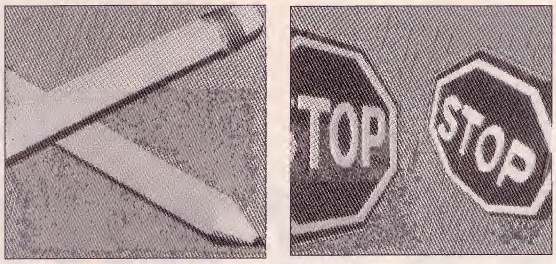
• *Post modern designs from the Archimedes at a price which would put many other desktop publishing packages to shame.*

A new desktop publishing package is to be released for the Acorn Archimedes - and it costs a measley £39.95.

***Imagine* comes from Topologika, a company better known for text adventures such as *Giant Killer*. It features split screen image editing, built-in maths facilities, and on-screen help.**

Users can make use 256 and 16 colours, brushes, fills, spray paint effects, and there is also an undo function.

The £39.95 price tag includes two disks and a manual. Add-on disks of clip-art images are also available for £9.95. ■



Zingy design for the PC

***Zing* is the name of the latest PC desktop publishing package from the States.**

It works under both MS-DOS , and Windows operating environments, and offers functions such as 3D lettering and graphics, and 16.7 million colour support. There is also full file compatibility between the Apple Mac and PC.

Price was not avaible as we went to press. ▩

ATARI CONSOLE: PANTHER TO GO

In a sudden change of direction Atari has abandoned its 32-bit Panther console in favour of a revolutionary, 64-bit RISC-based games machine – a design that the company feels sure will be "the technology leader into the 21st Century".

While details of the new console, codenamed the Jaguar, are a closely-guarded secret, according to insiders the Reduced Instruction Set Computer technology involved could allow the Jaguar to run Virtual Reality games.

The announcement comes a few weeks after Atari UK's Managing Director Bob Gleadow stated that the Panther hardware was complete. At a major press conference held last month, Gleadow implied that a pre-Christmas launch for the Panther was likely – the final date would only be governed by the availability of games titles, he said.

Now all development work on Panther software has been called to a halt by Atari USA's president of software development, Larry Segal.

In a letter to the software houses that had Panther development systems, Segal explained that Atari will 'forgoe' the Panther console in favour of 'a spectacular game system that we feel will be capable of being the technology leader into the 21st century.'

At least six UK software houses were working on Panther software, but it seems that none of them had actually completed a game when the decision to scrap the project came – less than six months before the scheduled international launch.

Segal is keen to maintain their support for the Jaguar: 'Those of you who have placed time and energy behind the Panther will be compensated for your support,' he wrote, 'We have no intention of causing you financial distress... we will give you every opportunity to adapt your development schedules to this new system.'

Apparently, Atari was developing the Panther and Jaguar consoles in parallel, but the Jaguar suddenly began to overtake its stablemate. According to Craig Erickson, Vice President of Software Development for Atari USA, Panther had reached the stage at which the casing was ready to go into production and the hardware engineering was complete.

Erickson explained: "The Jaguar was progressing faster than we anticipated, and we asked ourselves why we were putting Panther out instead of Jaguar.

"At that point we decided to drop Panther and push all our resources behind Jaguar."

While a few Jaguar development systems are believed to be in the hands of major USA companies, the Jaguar console is unlikely to be publicly unveiled this year, according to an Atari UK spokesman. ▩

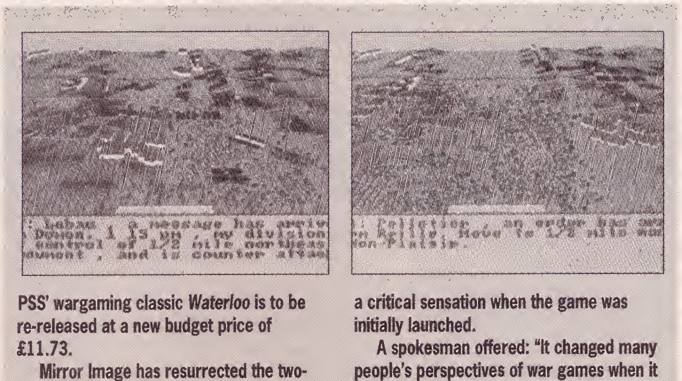
Share and enjoy

The complete range of PKWARE utilities, including the public domain/shareware standard compression program *PKZIP*, is now available through Shareware Publishing.

PKZIP compresses data by as much as 96 per cent so that large files can be fitted on to floppy disk or safely transferred over a modem. It is the most popular compression program used by Bulletin Boards in the UK. Available for £29, it comes bundled with *PKUNZIP* to decompress the files.

Other utilities in the range include *PKLITE* which allows a program to be run in compressed form and programmers' compression toolkit.

For more information contact Shareware Publishing by calling 0297 24088. ▩



PSS' wargaming classic *Waterloo* is to be re-released at a new budget price of £11.73.

Mirror Image has resurrected the two-year-old strategy masterpiece for the ST, PC and Amiga.

The 3D generated battle scenes caused a critical sensation when the game was initially launched.

A spokesman offered: "It changed many people's perspectives of war games when it first came out, and was really responsible for bringing the specialist genre of war gaming to a much wider audience." ■

Workstation worth the Risc

IBM is set to launch a low cost RISC-based workstation this winter, according to sources at the company.

The company is expected to officially announce the RS/5000 range in August. With prices starting at around $5,000 the range will compete in the same market as the Sun Sparestation.

The machines would be cut down versions of the company's RS/6000 range in terms of both size and power. IBM has recently cut the prices of the RS/6000 range and this has been seen as a move to accommodate the new machines. ▩

WordPerfect delayed

The launch of *WordPerfect* for Windows has been delayed.

Originally due for launch this spring, it will now not be available until late August at the very earliest.

Executive vice president of the WordPerfect Corporation, Pete Peterson, predicted: "Unexpected problems could push the release date into September. However, given the fact that we are this far along the release cycle we would not expect the release date to slip into October." ■

Post haste

Post code information on 23 million British homes is now available on CD-ROM disk.

You can get hold of The Royal Mail Postcode Address File from WSA Consultancy, which will throw in a Hitachi CD-ROM drive free. The package, which costs £2,500, includes Ordnance Survey grids, business names, mailsort selection codes as well as fast search . WSA's offer lasts until November. Call 0992 553341. ▩

Talk to your PC

For people who can't use a keyboard or stylus to enter data into their PC, IBM, and Dragon systems, is launching an advanced voice recognition system in August.

Targetted primarily at disabled users IBM VoiceType has a 7,000 word speech recognition vocabulary which includes 2,000 user-defined sounds as words. It can also be used to create sentences of up to 1,000 characters from one sound command.

Based on Dragon Dictate, a dictation system developed by Dragon, IBM VoiceType will cost around $3,000. It requires a 32-bit PS/2-compatible system. ▩

ARE YOU TAKING PRECAUTIONS?

Computer viruses and hacking could cost £1,000 million in the UK next year, yet little is being done to protect systems from attack. *Express* reports on an increasingly dangerous menace.

Computer virus attacks are on the increase according to two independant reports, one from the US and one from the UK.

Dyan Dyer, president of Command Software services spoke at Comdex in Atlanta and stated: "A year ago less than one per cent of computer users had experienced a virus attack. Today, 11 per cent have and within a year nearly all will".

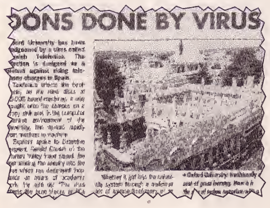
In a report produced independantly of the US findings, by UK-based SD-SCICON, it was claimed that: "It is only a matter of time before a security lapse leads to a massive loss or another major disaster - yet the majority of users are not doing anything about it".

Backing up this worrying claim were some cold, harsh facts: "Only 22 of the 152 organisations surveyed had appointed anyone with specific systems security responsibility, even though 89 of them were concerned enough to ask for details of ways of combatting poor security".

Large organisations, such as local government departments, were picked out for specific blame. Only two out of 27 IT departments contacted expressed interest in security.

Central government offices were only slightly better off, with only 3 out of 19 data processing departments saying that they had considered taking precautions against attacks from viruses or hackers.

Linda Graham of SC-SCICON told *Express* this week: "The survey certainly included government and local government departments, as well as companies from the size of ICI downwards. When they were approached and asked about computer system security they were more than interested.


DONS DONE BY VIRUS

• How Express broke the story of the Spanish Telefonica virus attack on Oxford University. This is the first case of a Multi-partheid virus seen in the UK.

"However, when they realised that they had to pay for such security they was normally a rapid back-down. One of the problems is that organisations don't really take the problem that seriously until something happens. It's a rather like being bitten by a pit bull terrier, until it happens to you, you don't really realise how much of a danger it can be".

Ms Graham also pointed out that, despite much uninformed media attention about "mad hackers" and teenage whizzkids with modems, the major threat comes from ignorant or apathetic employees, or ex-employees with grudges she said: "Because the greatest menace comes from within, it is more difficult to track down".

> **"It's a rather like being bitten by a pit bull terrier, until it happens to you, you don't really realise how much of a danger it can be."**

This is compounded by the fact that most small to medium companies have not even appointed officers with specific interest or knowledge of computers. "People in charge of IT security are normally those who merely have general security brief," said Graham.

WARNED IN THE USA

Dyan Dyer, whose company Command Software Systens, produces virus security products, spoke at Comdex Atlanta. She traced the main areas of concern in the virus and hacking war not to single user machines but to business users. And specifically to the rapid proliferation of Local Area Networks: "A single virus can take down an entire network, and close down an entire business, where only a few years ago it might have infected only one PC," she said.

Any idea of an organised conspiracy to plant viruses was quickly disdained. The problem comes from disgruntled individuals, and specifically employees: "You have to deal with employees and tell them not to bring in unauthorised or unauthenticated software". Her answer to the problem of ignorant, or grudge-bearing employees was simple: "In many firms you can get fired for bringing in such software".

THE EXPERT'S OPINION

For an overview of the situation relating to computer viruses, we spoke to Ed Wilding of specialist journal, *The Virus Bulletin* who told us: "While the level of scare-mongering in the UK has fallen over the last year, the number of actual viruses, or reports of viruses has increased. Clone viruses, those which are refinements of existing, known ones, are still appearing. However, the escalation of distinct, new viruses has been enormous".

The newest, and potentially most worrying type of virus is called the Multi-partheid virus. While conventional diseases affect either the boot sectors of disks or append themselves to files, Multi-partheid forms do both. This makes them a lot more difficult to keep track of.

• Edward Wilding* of The Virus Bulletin:*the most worrying new aspect on the virus scene is the multi-partheid strain. This effects both files and boot-blocks.

Wilding said: "The first of these we have seen in the UK is Spanish Telefonica (see *Express* 133 - 25 May) which hit Oxford University, and also cropped up at City University in London. Viruses such as this are particularly nasty as they have incubation periods of up to one year in which time the user will unwittingly pass on the infection.

We asked whether attitudes to data security had improved among UK computer users: "Bear in mind that *The Virus Bulletin* is subscribed to by companies rather than individuals," said Mr Wilding. "And in this sphere, yes attitudes are definitely getting better. Companies are begining to make systematic changes to the ways in which they approach security". ■

THE YEAR OF LIVING DANGEROUSLY

Express has reported two computer related crimes, or schemes related to computer crime for each month of 1991. These range from hacking to computer viruses. What follows makes disquieting reading. It is the calendar of computer crime for this year:

JANUARY

- The Saddam virus discovered in the UK
- 5,000 US forces's PCs are infected by the Jerusalem virus.
- Bejing virus which showed the message"Bloody June 4, 1989' the date of the Tiananmen Square massacre, arrives in UK.
- The British Computer Society carried out a study which claims that the forthcoming national census is a prime target for hackers and viruses. The computer centre for the census, based in Hampshire, is unprotected.
- *Express* reported that equipment is freely available which will enable anyone to snoop on computer systems. Electro-magnetic emissions from micros can be picked monitored and read for valuable data.

FEBRUARY

- Shadow home secretary Roy Hattersley claimed that there are too many loopholes in the Data Protection Act, and that it should be reviewed with great urgency.
- The French have written a Trojan Horse virus (this is a virus which resides in a system awaiting a certain set of circumstances or a specific trigger before activating) which will disable weapons such as Exocet missiles.
- A *Which Computer* report claimed that 50 per cent of the companies interviewed has never even heard of the Computer Misuse Act.
- A loss of £500 million was attributed to a series of computer errors by the Foreign and Commonwealth Office .

MARCH

- A number voters in the Ribble Valley by-election were disenfranchised by a rogue computer which dropped their names from the electoral role. So far the cause is unknown.

MAY

- Scotland Yard decided that it had to team up with Interpol to counter the threat of viruses.
- The Government launched a scheme whereby independent security experts would check the computer systems of UK firms.
- Spanish Telefonica, virus discovered at Oxford University.

NEW SKIDS ON THE BOOT-BLOCK.

Listed below are the five most predominant viruses on the PC in the UK at this time.

• NEW ZEALAND II - This flashes the message "Your computer is stoned" and then infects the boot block of a hard disk.

• JERUSALEM - Also Jerusalem 'B'. A parastic virus which appends itself to .COM and .EXE files.

• CASCADE - This has been around for a number of years now, but has changed. Previously it would cause screen characters to fall from the top to the bottom of the screen. Now it merely replicates itself, filling a hard disk with useless files, without giving the tell-tale sign.

• JOSHI - like New Zealand in effect, except it prints the message "Happy birthday Joshi" on January 5.

• EDDIE and EDDIE II - variations on a theme. Again these viruses

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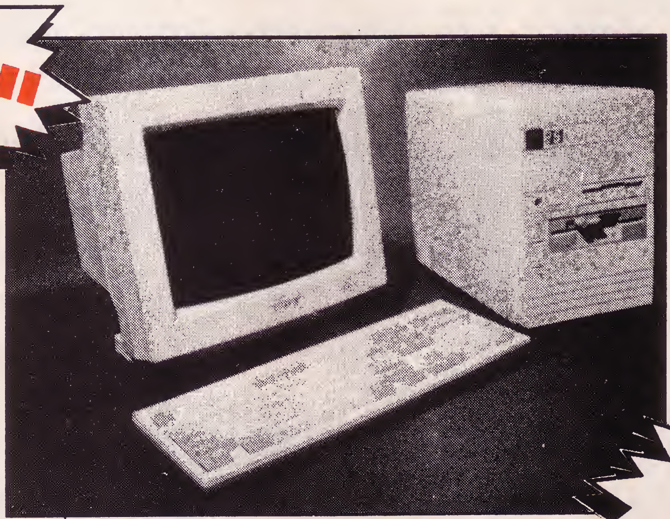

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WHAT'S NEW

Express' handy reference guide to the newest and most interesting technology around

Protect-a-net

PRODUCT: **Network protector**
NAME: **NP08**

The NP08 is an in-line device to protect networks and video equipment from the sort of spikes and surges that can occur on any electrical circuit. These spikes and surges can cause software and hardware failure and effectively pull down a network.

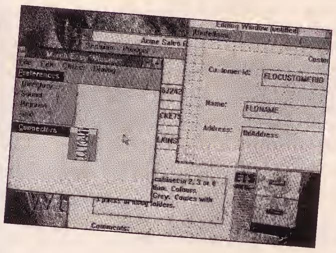
The network protectors are simply fitted in line with existing networks and equipment. They are available with a range of different connectors to suit most existing systems.

The feature that makes the NP08 interesting is that low loss and low line resistance help maintain the integrity of the signal, an important feature in computer network protection.

Price: £64.63 inc VAT per unit.
Availability: Now
Target users: Installers of computer networks and video systems.
Contact: Telematic Direct: 0727 833147
Perceived competition: The company is unaware of any competitor in this field.

World on the Window

PRODUCT: **Windows application builder**
NAME: ***Easy Windows***



• *Windows. While the world holds its breath for the release of Windows 3, other people are making the most of the current version with EasyWindows.*

This software bundle will run on any 286 or 386-compatible PC. It enables users of Microsoft's graphic user interface (GUI) Windows to develop their own programs which make use of icons and visual images.

While writing the program, the screen image is displayed concurrently. Basically, you will need to be using a 4th generation language (4GL) such as C in order to get the most use from this system.

The software comprises three different modules:

EasyMake – an applications builder, used to create Objects and Dialogue boxes. *EasyRun* – which simply runs the applications once you have produced them. And finally, *EasyDatabase* – this is responsible for accessing all stored data. It makes use of industry standard SQL commands.

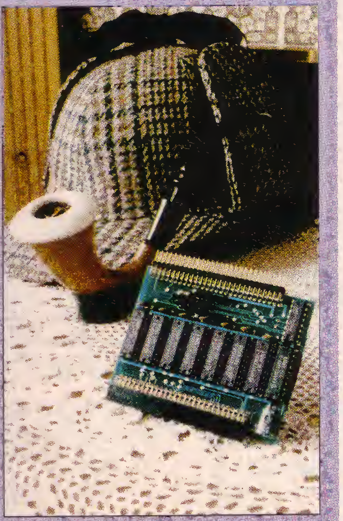
Price: £116.32
Availability: Now
Target users: Windows developers, and anyone with a need or desire to tailor their GUI to their needs.
Contact: March Systems: 0734 404079
Perceived competition: No one as yet.

1Mb of RAM for £65

PRODUCT: **Memory expansion board**
NAME: **Megaboard**

The Megaboard is a 1Mb memory expansion for the Amiga 500. The great thing about this board is that it can be connected alongside existing 'short' 512K expansions. According to Evesham Micros: "The Megaboard fits between the A500 and current upgrades to provide a further 1Mb of RAM, thus achieving a total of 2Mb". The board is connected to the gate array (GARY) to page in the extra megabyte.

Price: £64.95
Availability: Now
Target Users: A500 upgraders who want to throw away 512K 'short' upgrades.
Contact: Evesham Micros: 0386 765500
Perceived competition: None as it is a niche product.



• *Behind the Sherlock Holmes hat lurks a pleasant upgrade board for the Amiga.*

King video card

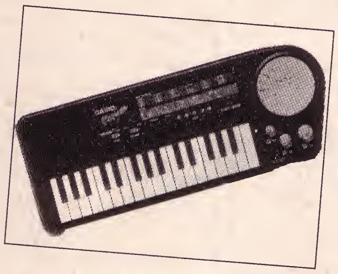
PRODUCT: **Vision Dynamics video card**
NAME: **Elvis**

ELVIS is an entry level video (or vision) card (hence Entry Level VISion =ELVIS) designed to run on a PC and operate under Windows 3. It can handle both the NTSC and PAL video standards. And it is capable of producing broadcast quality images for use in presentations, training and multimedia in a commercial environment.

Price: £1,116
Availability: Now
Target users: Commercial users of multimedia and video imaging of any kind. On line security systems can benefit from this product too.
Contact: Vision Dynamics: 0442 216088
Perceived competition: This is an area which is due for great expansion, although at the moment no names come to the fore.

Scan-tastical?

PRODUCT: **Colour handscanner**
NAME: **ColorArtist**



• *More colours than a crowd of rainbows wearing very bright clothing. This handscanner takes the average 4,096 colours and more than trebles them.*

The manufacturers claim that this piece of kit can handle 262,144 colours on screen as opposed to the 4,096 which is normally the standard with handscanners.

It is *CorelDRAW!* compatible and supports both TIFF and PCX file formats. It will also work with both the Mac and the PC – although the latter requires a SCSI box before contact can be made.

Price: £468.82 (PC), £821.32 (Mac this includes the SCSI box)
Availability: Now
Target Users: Desktop publishers who require high-end colour reproduction.
Contact: American Pacific 081-903 6646
Perceived competition: Genius and DFI.

R-R-Rapman

PRODUCT: **House/Rap portable keyboard**
NAME: **Casio RAP–1**

• *It might not look computer related to you, but remember that in order to produce those wonderful melodies, this keyboard requires some fairly hefty processing power.*

RAP–1 is an inexpensive electronic keyboard with a built-in 'scratch' disk. This is a device that sounds like the scratching found in rap and house music. As well as the rap scratcher, the keyboard has 25 tones, three separate drum pads and a 30 rhythm percussion section with eight rap and three house beats

Price: £69.99 – £89.99
Availability: June from high street electronics retailers and music shops.
Target user: People who want to buy a keyboard that reflects the current style of music.
Contact: Casio: 081-450 9130
Perceived competition: None

Big power!

PRODUCT: **Emulator to allow workstations to connect with mainframes.**
NAME: **3270LINXix**

The 3270ix is a combination of an interface card and software. It enables UNIX systems and workstations to connect to IBM mainframes via an emulation bridge. Users can also produce programs that enable the UNIX systems to interact efficiently with mainframes under software emulation. Applications can also be created that mask complicated mainframe operations from UNIX users.

Price: On application
Availability: Now
Target users: Corporates/mainframe users/developers wanting a painless and seamless interface between mainframe and UNIX systems.
Contact: Sintec: 0753 811888
Perceived competition: None in the United Kingdom. ■

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My ST is . . .

Is it necessary to shoot Atari in the foot? The ST, Mega ST, STE and TT are the best value computers and workstations on the market and the company should be treated accordingly. If you persist in attacking companies that have an interesting and innovative model range and praising those who produce unreliable rubbish, you can't be doing anyone a favour, least of all yourselves.

Tom Ryder, Scunthorpe

YOU'RE QUITE RIGHT, it's not necessary to shoot Atari in the foot. They seem quite capable of that job unaided. As for your jibes about praising unreliable rubbish, would I be getting warm if I guessed that you had an ST and that your letter was a thinly disguised MSTIBTYA (My ST is better than your Amiga) letter? I thought so. Now if you'll just go away and knock together a balanced argument in favour of your opinions instead of the four pages of drivel which had to be severely cut to wring some sense out of it, we'll start to listen to your arguments.

Closing the door

Now that the Door to Door story has gone and no doubt the villains are being brought to justice, it's time to do something to protect your readers from the next bunch of unscrupulous cowboys to arrive on the scene. Why doesn't *Express* join some sort of scheme to protect its readers from being ripped off by every Tom, Dick and Harry who can think up an exciting sounding product and place an advertisement for it?

Malcolm Dowthwaite, Cleveland.

Publisher of *Express* Steve Carey replies: "This is something we've been working on for a while. After all, it does us no good if some crook advertises in *Express*, cons our readers out of their hard-earned and then runs off without paying the bills.

"The trouble is, we've looked at some of the existing schemes and been somewhat disappointed: the reality does not match the promise. Certainly you should never let one of those schemes lull you into thinking you're 100 per cent safe. You're not.

"Our sister magazine *Amiga Shopper* (second glorious issue on sale now) has a Mail Order Ombudsperson, and depending on how that goes we may well follow suit.

"Watch this space..."

Charity begins

I was listening to the car radio and was horrified by a charity appeal I heard for Ethiopia. The supposedly well-meaning person being interviewed was asking for cash for laptop computers so the people administering the goods at this end could be more productive. He had a very lucid argument that if the efficiency at the distribution centres here could be improved, the goods might reach the needy even more quickly.

As the interview rolled on, it became obvious that he was in fact the warehouse manager and that the jobs that he wanted six laptops at £1,500 each for could be done with a notebook or an abacus. It's too easy to want technology for the sake of it and I think that this appeal could do Ethiopia more harm than good.

In real terms, what he was asking was for £9,000 to be spent that could have kept 36 people in Ethiopia alive for a year ... so that he could have half a dozen computers to play with.

Mary Jones, Dartford.

WITHOUT LISTENING to the interview, it's difficult to comment, but six laptops to count sacks of food and so on does sound a bit over the top. If the charity in question (and you failed to tell us who it was or on which radio channel it was on) would care to write or fax us with their side of the story, we'll open forum on it.

Know all

Do you think we're all idiots? Anyone who buys your magazine must have some rudimentary knowledge of computers, and would obviously know what things such as MIDI and digitiser mean. Yet recently you have been explaining such basic terms in boxes and spelling out acronyms in full in brackets after the word (eg FAST (Federation Against Software Theft)).

Why? Don't you have enough to write about so you fill in the space with needless patronising explanations? I, for one, want to see more hard facts and less wibble. If someone wants to learn about computers, they should go and buy the *Penguin Dictionary of Computer Terms* or similar.

I Sorenson, Chigwell, Essex.

FOR SOMEONE as computer literate as yourself, I'm sure that reading information that you already know must cause you to yawn, but not everyone has your encyclopaedic knowledge or a dictionary of computer terms to hand.

The purpose of the boxes and explanations is so that every reader can understand the content of the page without recourse to reference works. If you read an article in *Express* that didn't explain itself to you, I'm sure that you wouldn't want to be forced to take your magazine to the reference library in order to read it.

Pay it again SAM

Since I bought my kids a SAM Coupé it has spent more time in a cupboard than in use because of the lack of the promised software. The Sinclair Spectrum that it was supposed to replace gets more use because of the failure rate of the Spectrum emulator. To rub salt into a rather expensive (£250) wound after MGT went bankrupt, partners Miles and Gordon dumped their public limited

Should we fly the UNIX flag?

I still regard the UNIX feature which you published some months ago as one of the best pieces I have ever read in your magazine, but coverage of this subject since seems to be have been non-existent.

As I think UNIX is going to be pretty major pretty soon, how about a regular column, perhaps in *Shopping Express*?

Charlotte-Anne Poster, Chertsey, Surrey.

• The legendary – nay, near mythical – UNIX-based NeXT: is this the look of the future?

UNIX IS A TRUE multi-tasking environment and operating system and is becoming more popular as home and office machines become more powerful. The problem is that it's all or nothing. A hybrid UNIX/MS-DOS machine would have all the quirks of each system without the advantages. For UNIX to become more popular and warrant more coverage, we'll have to wait for the power PCs to become more common and UNIX software to become available. The trend is heading that way, with no difference in price between the bottom of the UNIX workstation price list and the top of the PC prices.

company and resurfaced telling us that all was well.

This I could have put up with until I got a £562 phone bill run up by my kids paying the outrageous 0898 phone costs to ring up the SAM Hotline. No doubt all of this money will gravitate towards the coffers of messrs Miles and Gordon. They should be stopped for milking a failure in this way.

Robert Watson, Headingly, Leeds.

WE RANG Alan Miles of SAM Computers and put your complaints to him. He said: "After MGT, we came back out of loyalty to existing purchasers. We had to make sure that they didn't have a plastic box that no-one supported."

On the subject of your telephone bill he had this to say: "As well as the 0898 phone number, we publish a newsletter and welcome calls from our consumers. We don't receive any income from the 0898 line as it is run on our behalf by another company. The responsibility for the use of the telephone does have to rest with the parents."

Bad service

When I go to my local software store (which I won't name) I sometimes wonder if the people in charge want to stay in business.

I'm sure most games software shops are wonderful places where customers are treated with care, but in my experiment this is not the case. Over the past six years I've been a regular customer of three stores around the country (at different times) and all have been pretty grim.

If there aren't tons of youngsters hanging around, chatting to their pal the supervisor, it's a grumpy old sod who wants to know why you want to see a game before you buy it.

I would like to suggest that some sellers of software get their act together.

Name and address withheld

IF THE SERVICE is bad, vote with your wallet and your feet. Take your cash elsewhere. It's a good policy to demand (politely) that a shop shows you a game working before you buy it. This way, you'll know that the program is to your liking. In the olden days of tape-loading, a shop could resist this based on the amount of time loading every game took. Nowadays, though, most machines have disk drives and the overhead time is less, so they should be more willing.

☎ On-line mail

Own a modem? Then squirt us a letter. *Express* has its own conference on CIX. Why not give this on-line service a ring on 081-390 1244 and talk to us direct!

You can also leave E-mail for us on Prestel and Micronet - get in touch on 011112623, or on Telecom Gold @84:txt152

Feminist attack

In reply to Ms Ramshaw (*Express* 133), I must write in to defend *NCE* from her unreasonable attack on the magazine.

The lady must be either devoid of a sense of humour, crazy or a loony feminist in managing to find sexist innuendo in *NCE*. The latter seems probable in view of her bitter and twisted attack against the staff of the magazine.

I have re-read the headlines mentioned in the letter and the stories that appeared with them several times and I am unable to find anything remotely offensive to either sex in them.

If Ms Ramshaw does not wish to buy an interesting, well edited, humorous and above all entertaining magazine that is her choice. The magazine will not miss Ms Ramshaw or her misguided and nonsensical attempt to rubbish it.

Graham Nimmo, Cupar, Fife.

AS BOTH our Production and Art Editors are women, I hardly think that the rest of us in the *Express* office would get away with being sexist for long. However, Ms Ramshaw is entitled to her opinion and we wouldn't dream of suppressing it. Then again so is John Morton who was so angry that he rang *Express* with this message: You can tell Ms Ramshaw that women are only fit for one thing. Two if you include frying bacon."

Now that's what we call sexist...

Cash maker

Here's a way to use your computer to make cash in your spare time. Interface it to one of those hoopy electronic laser tills used by large supermarkets and DIY places. Write a program that takes every fourth purchase and duplicates it, increases the price of loose fruit and veg by 36p a pound, adds VAT to everything and adds six quid before giving you the total.

Now no-one would get away with this for long, so there has to be an algorithm that takes into account the amount of customers and the average price of the goods. As the amount of goods and customers rises so does the 'mistake factor'. This way, when it's busy and embarrassing to make a fuss, more 'extras' will occur. When it's dead quiet, the mistakes won't happen at all.

When you've perfected it, you will be able to sell the benefits of your wonder-till computer to all of the small shopkeepers in a bid to help them claw back some of the ground that they've lost to the major chains.

So you don't think that it will work, huh? When was the last time you scrutinised your bill at the risk of delaying 94 people behind you at a busy checkout?

Madeline Frobisher, Wembley, Middx

AND I SUPPOSE you'll be telling us that the Pay and Display machines, photo booths, chocolate vendors and bank hole in the wall machines are designed to rip us off too... Hang on though, maybe you do have a point after all.

Brave world

A 1969 BMW 2002Ti? Belt along? Do us a favour! Perhaps it belts along when you've been used to the plodding Fiat Uno, but come on. Live in the real world!

Meet me at the traffic lights on Marylebone St/Baker St Friday at 23 hrs and I'll show you the meaning of belt along with my 3 litre Alfa 75.

Boy Racer, Aylesbury

IF YOU WERE BRAVE enough to sign your letter with a real name we might consider running out the *Express* Firebird (400cu inches and a definite Alfa Eater). You may think that you have the car but you haven't the guts to identify yourself and that suggests a no contest

Favoured few

When I started to buy NCE a year or so ago you ran a column for every machine thinkable. Over the last year you have dumped them until there are only those left that support mainstream computers.

I haven't an axe to grind as I own an Amiga, but I wonder if it's prudent to ignore the thousands of computer users who don't use one of your favoured few machines.

Colin Moore, Lincoln

WE MAKE DECISIONS based on the mail that we get, telephone calls and faxes that we receive and the results of our reader surveys. The evidence speaks for itself. A huge percentage of our readers own PCs, Amigas and STs, a smaller percentage own CPCs, Spectrums and Archimedes and the remaining teeny amount accounts for the rest. Thus when we organise our machine coverage, it is based on what our readers own and what they want. ■

ON THE COUCH

Express' resident psychoanalyst, Clare Anthony has had more mail this week than she can handle. So much so that the famous leather couch needed reupholstering with ecologically sound syntho-cowhide. Queries came in floods relating to 8-bit angst, and NeXT neurosis. However, this week's star letter comes from Alan McLennan of Esher.

Dear Clare,

Please don't be to harsh with me. This is the my first time, writing to a magazine. I feel that you should know that I am by nature a nervous individual.

- MACHINE OWNED: Amiga 500

- FAVOURITE SOFTWARE: *Lemmings*

- DESIRED MACHINE: Amiga 500

Now then Alan, *Lemmings* is it? No desire to upgrade to an Amiga 3000, a Mac, or even move to a CPC? Interesting. First, let's deal with the inate retention problem you seem to have. This inability to think any further than an Amiga 500 means, in my opinion, one of two things. Either you are utterly content with your lot, or you have a fear of moving into new territory.

The *Lemmings* aspect would appear to suggest that contentment is not your lot. While it is a good game, your comment that "I can't help playing it. I play with the little furry things all night. They're so real don't you think?" underlies the frankly static view which your ego is enforcing on the twin dynamics of Eros and Thanatos. I feel that you should up your ambitions for the future.

What we have here, readers, is a classic case of arrested development combined with retentive instinct. A blinder of a case history!

DIAGNOSIS: Go out and but a Spectrum. Start using a random fractal generator to introduce some feelings of change. Stop being so sickenlingly dull, tedious and boring now, and maybe normal people will stop, as you say, "falling asleep when I talk to them".

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AMIGA

- Passport leaves Amiga musicians in the lurch
- Roctec poised to invade the UK Amiga market
- Naksha takes on Pandaal scanner software

PASSPORT MOVES ON

In a shock announcement last week, US-based Passport Software revealed that it is to cease development of Amiga products in favour of the more profitable PC and Mac music markets. Even the ST has taken second place to these two platforms which form the bulk of computers used by American musicians.

This decision effectively means the end of Passport's existing range of Amiga music software, including its top of the range sequencer, *Master Tracks Pro* and its budget sequencer, *Trax* (a fine program). From now on, updates will be almost certainly restricted to correcting bugs, so don't expect anything particularly stunning.

Also on the music front, Dr T's Software is soon to launch a major upgrade to its successful and highly regarded sequencing system, *KCS*.

Now renamed *KCS Omega*, the program has been totally revamped to give it a more Workbench 2.0-like user interface. The graphic editing tools of Dr T's *Tiger* have now been built in as standard, so there's no more messing around with fiddly stream editors.

☎ Find out more about both *Passport* and Dr T music products by phoning UK distributor MCMXCIX on 071-724 4104.

ROCTEC STORMS UK

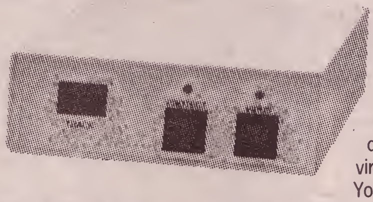
No one could blame you for never having heard of Roctec Electronics, but you can bet you bottom dollar that you'll be hearing an awful lot about it in the future.

Based in down town Hong Kong, Roctec specialises in external disk drives for a range of different machines including the Amiga. However, it is currently extending operations to cover a lot more than just disk drives.

First up is the RG300 genlock for the Amiga that was reviewed back in *Express* 131. For a stonkingly low price of just £117, the RG300 offers full fading and dissolving functions, plus all the other kind of genlock-like functions you would expect.

Also new is a nifty little device called the RV300C RocKnight which should sell for about £30-40 in this country. It is basically an anti-virus device that has been specifically designed for the Amiga to stop your disks from being infested by boot-block viruses like the *Lamer Exterminator*.

The RocKnight features a powerful virus-prevention function which stops all write operations to all drives including the Amiga's internal drive. Taking this further, an extra write-protect function stops all write operations, regardless of where the data is being written to, removing the need to manually set the disk's write protect tab.



• The RV300C RocKnight, a powerful anti-virus device, is just one item from the impressive new range of Amiga peripherals from Roctec.

Every time the Amiga attempts to write to the boot block of a disk, the RocKnight sounds a warning beep which allows you to detect when a virus is at work. You can then activate the virus-prevention function to prevent further contamination on your hard drive.

For the inquisitive among you, the RocKnight also boasts a handy track display which shows the position of your drive's head during disk operations.

A UK distributor for the Roctec range of products is yet to be appointed, but I'll let you know more as soon as Roctec has made a decision.

☎ In the meantime, the RocGen is available from Silica Systems on 081-309 1111.

LICENSEWARE EXTENDED

Following on from the phenomenal success of its licenseware scheme, the AMOS PD library has announced that the range is to be extended to cover programs written in just about any language, not just AMOS.

Now you can send in programs to the AMOS library, even if they aren't written in AMOS. The library is after just about anything, from games to utilities and applications.

If you think your program is up to scratch, then why not send it in for appraisal? The great thing about submitting your work to a licenseware scheme is that you are virtually guaranteed to receive some form of payment for your programming efforts. In fact, for every disk sold the programmer makes at least 80p, sometimes even £1.

This may not sound like an awful lot, but if your disk proves to be successful, you could eventually be looking at a royalties cheque amounting to several hundred pounds.

According to Sandra Sharkey (there Sandra, I can spell your name correctly!) of the AMOS library, some licenseware programmers have been doing very nicely out of the scheme. One

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programmer in particular, Len Tucker, has received several cheques of considerable size and has even been commissioned to write commercial educational software on the strength of his PD efforts.

☎ Phone Sandra on 0942 495261.

SCANNER UPDATE

Those of you eagerly awaiting the arrival of Naksha's forthcoming hand scanner will be pleased to know that you don't have much longer to wait. According to Naksha general manager, Jay Savoor, the scanner should be available within the next couple of weeks.

It had been delayed by the development of Naksha's scanning software, *ExpressIT!*, which the company originally intended to bundle with Electronic Art's *DPaint 2*. However, in a move which is sure to raise a few eyebrows, Naksha has decided instead to cease development of its own software and go instead for the software used by a competitor's product, namely Pandaal Marketing's *DAATAscan Pro.*

Obviously Naksha isn't claiming that Pandaal's scanner is a better product. However, the company was so impressed with the accompanying software it has decided to license it for use with its own scanner.

Written specifically for the Amiga, the *DAATAscan* software offers high speed scanning in realtime with up to 64 shades represented as greyscales. It offers powerful clipboard functions, image cropping, rotating, flipping and inverting of images. Expect a full review of the Naksha hand scanner soon.

PUBLIC DOMAIN DEMOS PICK OF THE WEEK

If you want to know what's hot in the world of Amiga demos, then this is the place to be. Every week I'll be looking at all the latest demos from Seventeen Bit Software, premier supplier of Amiga demos.

DEPECHE MODE DEMO (Disk 926) – I had to feature this disk, just because I'm totally and utterly mad on anything to do with Depeche Mode. Hear such classic Mode tracks as *Shake the Disease*, *Little15*, *See You* and *Photographic* on your Amiga.

JUGGETTE DEMO 2 (Disk 1032) – The Juggette saga continues with this latest Movie Setter animation. I'm not going to say too much about it; suffice to say that it's well worth seeing just for a chuckle .

ARNIE 'TOTAL' DEMOS (Disk 868-871) – Fans of Steve Wright's radio show will love these clips from the spoof Arnie sketches. Is this a Uzi 9mmI see before me?

UZI 9MM!!!!!!MUSICAL MASSACRE (Disk 1029) – If you want listen to a little music to wile away the hours then treat yourself to this disk containing 12 excellent *Soundtracker* tunes.

☎ Phone Seventeen Bit Software on 0924 366982

PC

- **Lotus *1-2-3* for Windows enters final Beta testing**
- **Quattro Pro for Windows previewed in the US**
- ***Twilight 2000*, a new tactical RPG from Paragon**

A TESTING TIME

The long awaited version of Lotus *1-2-3* for Windows is entering the final stages of beta-testing.

Lotus *1-2-3/W*, as it will be known, was previewed at the Spring Comdex in the USA. The Windows spreadsheet incorporates 3.1's ability to stack worksheets on top of one another for 3-D file linking, as well as its ability to solve multi-variable problems with the Solver feature. It is also faster than 3.1.

1-2-3/W features a "revolutionary icon bar concept". Basically this is a floating 'Icon Palette', a box of symbols that you can click on to access common functions.

The moveable palette can be changed to suit your needs and is comparable to those featured in *Ami Pro* and the upcoming *Freelance Graphics* for Windows product.

Intriguingly, the interface will arrive in two modes: the new Windows interface and the "Classic" *1-2-3* interface familiar to many DOS users.

1-2-3/W, which is due to ship during the summer, will require 2Mb of RAM, although 4Mb is probably a more realistic target.

IT MAKES NO AUTO-SENSE

If you plan to use Lotus *1-2-3* version 3.1 on the new 486SX machines, think again. There are problems with the program's auto-sensing feature which looks for a maths co-processor; when the program looks for the co-processor chip, it grinds to a halt.

The problem is the lack of a maths co-processor in the new 486SX chip. Usually, version 3.1 of *1-2-3* looks at the main processor and then looks to see if there is a maths co-processor attached.

However, if it sees a 486 chip it automatically assumes that a co-processor is present. Hence the ensuing chaos when the new 486SX fails to come up with the goods. The upshot is that all entries placed within a cell turn to zero.

1-2-3 does have a 'work-around' which asks you to enter the starting

(Continued on next page)

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batch file and disable the auto-sensing feature using a "Dash-S" command. This fools the program into thinking that it is running on a 386.

Lotus has a new version of *1-2-3*, called *V3.1 Plus*, which should be out in a month or so, but it is not known whether this version will suffer from the 486SX problem.

☎ Lotus is on 0753 32443.

QUATTRO FOR WINDOWS

Philippe Kahn, enigmatic president of Borland International, teased the good people of Demo '91, a show held in the States, by giving them a quick look at the Windows version of *Quattro*.

Features of *Quattro Pro* allow you to directly manipulate and modify objects by clicking on the right mouse button. Even while running multiple applications under Windows, it is possible to access the characteristics and properties of an object directly, according to Kahn.

Sporting an icon ribbon across the top of the screen the Windows version of *Quattro Pro* features tools and functions that can be accessed in a single keystroke. Under Windows, *Quattro Pro* also features tabs across the bottom of the screen.

There are rumours that *Quattro Pro* for Windows is expected to work with Microsoft's Pen Windows operating environment without any modifications.

☎ Contact Borland on 0734 320022.

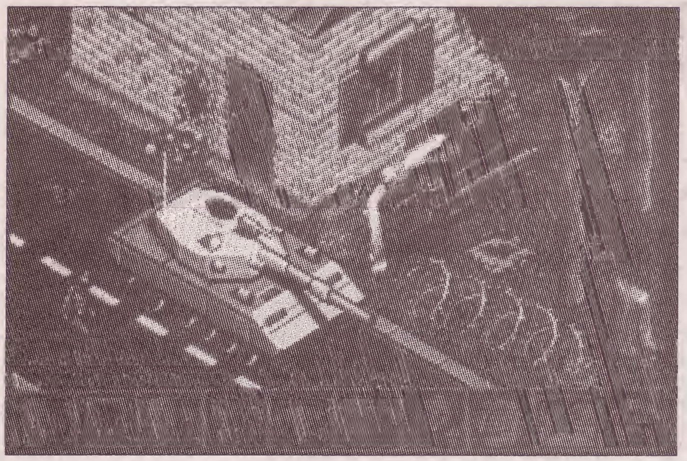
TWILIGHT 2000

New from the American games software house, Paragon Software (producers of *Megatraveller*), is the upcoming release of *Twilight 2000*.

It is a mixture of tactical action and role-playing set in the aftermath of World War III in which you must travel through terrain devastated by high-tech weaponry and nuclear radiation. Your mission is to rebuild and defend the city of Krakow, Poland, against the usual mob of killers and mad militia gunmen.

Twilight 2000 is a promising game. For example, you only create your own character via the usual RPG character creation routines. The three other party members, that you command, will respond to your orders based upon their own personality traits.

Featuring "hundreds of weapons and vehicles", a mix of 2-D scaled overhead sequences, 3-D simulation arrangements and bit-map 'meanwhile' screens, *Twilight 2000* could be one to look out for.



• *Krakow has to be saved in the post World War III scenario of* Twilight 2000.

DECENT CHAP

Something else to look out for is that very decent chap who writes the PC Column for *NCE*. Why not put a smile on his hard- working face by sending him chatty letters, news of your latest whizz-bang product, moans, groans, hints and tips to *New Computer Express*, Future Publishing, 30 Monmouth Street, Bath BA1 2BW.

Paul Rigby

DESKTOP PUBLISHING SPECIALIST SHAREWARE

Continuing this series of Shareware/PD for specialist users with part two of a look at programs for DTP.

First out of the hat is a handy utility called *WHAT?format*, a file format recognition utility. Version 30 recognises 70 major file formats, including 30 word processors. It will not only distinguish between *WordPerfect*, *WordStar* and *Word*, but also between different versions.

Originally written for a typesetting house which received a lot of raw text on floppy disks, *WHAT?Format* can also be used to automate various kinds of file processing and hard disk management.

Code to Code 4.0 automatically manages cryptic codes left in text files by typesetting and DTP. Now codes can be automatically translated from typesetting to DTP or DTP to typesetting in addition to code stripping and code-free editing.

Use DOS wildcards from the command line to process all files with one command or use the menu system. Features include, graphic arts calc, on-line help, DOS shell and complete docs.

For further information contact: PD & Shareware Library, Winscombe House, Beacon Rd., Crowborough, East Sussex, TN6 1UL.

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BUSINESS B01

BIPLANE This spreadsheet comes in either DA or application . Contains 32 built in formulae.
MOCKPACKAGE 4.3.4 This is a set of four DAs, MockWrite, MockPrinter, MockChart & MockTerminal.
ROLO/BLACK BOOK/ADDRESS/TODO Various useful DAs
SCREENLOCK DA Asks for Password and then it blanks the screen, Wont reactivate the screen until the same password is entered
MACPROTECT Password protects applications, for use in unsecure environments.
SYSPWD Startup password protection program for use with Hard disks.
FLINTLOCK Similar to SYSPWD.
dCAD A good financial calculator.
PAINTSHOW Reads lists of MacPaint files and shows them in slide show fashion.
MACBILLBOARD Print billboard sized pictures using a standard printer, Good giant jigsaw maker.
BANNER Print a large simple text message on an imagewriter printer.

GAMES G03

GOLF Popular version of solitaire.
HEARTS Another Popular card game.
KING ALBERT Another clone of Solitaire, variation on Klondike.
KLONDIKE The all time classic Solitaire
MAC SEVEN Stategy card game
DECK EDIT Customise the graphics on the cards. Only works with certain card games.
TRICK TRACK A dice game played in some pubs.
PLUS: Ax Headroom, Automata, Pyramid, High Roller, Mouse Craps, Loto & Bill's Casino

GAMES G06

STUNT COPTER Drop the stuntman into the hay wagon from the helicopter
TORPEDOES Sink passing ships with your torpedoes.
TRON CYCLES Try to block your enermies cycles before he blocks you.
UTAAN ATTACK Destroy the ships before they reach the bottom of the screen.
WIZARDS FIRE Three games in one! Breakout, Pressure and Wizards fire (just like Missle Command.)
ZERO GRAVITY Keep your man in the middle of the zero gravity to get the lowest score.

GRAPHICS GR10

STARTUP SCREENS Are you sick of the normal startup screen, then why not get this disk. All you do is put one of the startup-screens into the system folder and when you startup you will be greeted by this screen instead of the WELCOME TO MACINTOSH screen. Screens include the Batman logos and pictures, plus many more.

COMMS C01

RED RYDER
This is the best communications program all round, it is also the most popular program of its kind for the Macintosh. All other communication programs are measured up against this one. Use it to call up other Bulletin Board Systems or call Compuserve etc... You can connect to almost any other computer.

EDUCATION E01

BRAIN BUSTERS Maths games for kids.
GRADE Teacher gradebook program.
GRAVITATION 2 dimensional orbital simulation.
MACGRAPH Outstanding mathmatical function graphing program.
MECHANICS 5 Small graphics programs that illustrate various principles of physics.
MONSTER MATH Add up numbers and evade the monsters.
OYSTER Demo system that enambles you to create your own tutorials
TINY TAFEL Geneology program that will help you get back to your roots.
TOOLS FOR WRITERS The only shareware version we have seen. With it you are able to check your writing for vague words.

EDUCATION E02

GEOLOGY Various graphic programs that can be used for picture aids in geology classes. Requires MacPaint or Superpaint.
ADD Basic math tutor.
HELOMAT Fly the helicopter through the obstacles and shoot the problem that matches the answer.
MATH DRILL Drills you in basic math.
MATH MOUNTAIN Answer the maths questions to get the mountain climber up the mountain.
MATH MUD Give the correct answer to keep the boy from falling in the mud.
MATHMASTER 2 Designed to help teach algebra students many of the basics for first year algebra
MATH TUTOR Teach students various types of simple maths.

MAC STACK 22

MATH FLASHCARDS Flash cards for addition, subtration, multiplication and division.
MATHVENTURE Progress through the jungle, Requires Macintalk.
MONEY Quizzes children on money.
OLLIES NEW MATH Ollie the owl drills children in Addition, Subtration, Multiplication & Division.
PLOTIT Enter X & Y data to be plotted on a graph.
RIGHT TRIANGLE Calculate the unknown properties of a right angle triangle. .
HEATHERS NOTES Teaches notes on the keyboard, using pre-recorded notes, voices and musical sounds.

DA's DA01

AIRPORTS Calculate distances between airports.
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PLANETS Shows the planets visible on todays date.
3D TIC TAC TOE Play against the computer on four levels at once.
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PROGRAM P01

DATAFLOW A Mac Flow Charter. Debug programs before coding them.
DIALOG CREATOR Make your own dialog boxes and then move them using Resedit or similar.
DISARM Diassemble 68000 resource code.
EDIT 2.1 A text editor for programmers. Suto indent, search and replace, time stamping and more.
LAYOUT Customise your finder. Change icon spacing, default fonts, and more. Be very careful this package is very powerful.

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- Discover where all your money goes each month
- Breaking speed records with three new accelerators

HACK 'N' CRACK

There can be few people who own a computer who have never come into contact with pirated software in one form or another. In fact, I'd go so far as to say that the vast majority of people have pirated software at some point. This job is made a lot easier thanks to so-called cracking cartridges which enable the user to dump the computer contents on to disk.

The point is, are these cartridges illegal? You can use most of them for purposes other than copying games and this is the argument that the manufacturers use to defend their very lucrative market. However, I was recently criticised for writing a rave review of just such a cartridge.

The reason I raved about it was because there was no "save game" facility built into the hardware. Therefore, I reasoned, you couldn't pirate games with it.

Wrong! I received a sackful of letters from "cracking" groups who gleefully told me that cartridges like this are perfect for hacking into games, because they enable you to examine in detail the programs' workings, lift out sound and graphics and alter sectors directly on a disk.

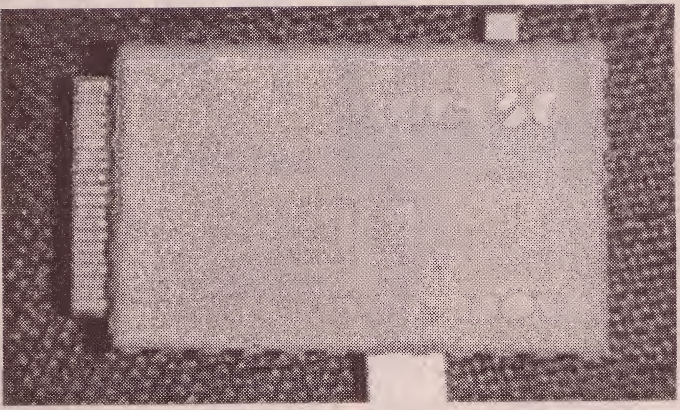
I've now taken a stand; I won't review any of these cartridges because they promote piracy. I'm also sick and tired of the useless arguments hackers use to defend their illegal activities.

The bottom line is that expensive or not, rip-off or not, piracy is illegal. If you feel that 'the men in suits' are stitching you up, then either stop buying their programs or else write your own.

Ultimately the people who really suffer from hacking are the programmers themselves. They get by on an up-front lump sum payment and a very small royalty deal. There are few filthy rich programmers out there.

The fewer people that buy their games because they can obtain a ripped off copy, the less the programmers want to continue producing games. Wouldn't the ST be a wonderful machine if there were no games for it!

Right, moan over.



• Most manufacturers of so-called 'cracker cartridges' argue that they can be used for other purposes than just copying games, but they are still a godsend for any pirates.

GO FASTER STRIPES

We all know that the ST has the fastest processing speed of any rival 16-bit machine, but there are times when you need a little extra bit of speed.

That speed can now be yours, because the accelerator market, after a year-long lull, has just exploded with three new packages on the market.

Quick ST will be familiar to a lot of ST users. *Quick ST 3.0* is now available and it improves greatly on earlier versions. It differs from other packages because it is entirely software driven.

Having been placed in the auto folder the program installs itself at boot-up. It allows you to access other functions such as custom desktop pictures. Custom fonts and icons are built in and these can be edited.

The main speed improvements will be in programs which use graphics, such as DTP programs. *Quick ST 3.0* now boasts vastly improved software compatibility and is available direct from the states at $34.95 (about £20) from Branch Always Software, 14150 NE 20th Street, Unit 302, Bellevue, WA 98007, USA
☎ Tel 0101 206 885 5893.

Dave Small is the genius responsible for the Spectre GCR Macintosh emulator. He's now turned his attention to acceleration and has come with a board based on a 68030 chip which can push your 8MHz ST up to

(Continued on page 24)

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Citizen Swift 9 + Colour Upgrade	£185
Epson LX400	£126
Epson LQ400 (24 pin)	£199

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ATARI

ST Accessories

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Megafile 30 Hard Disk	£399.00
Megafile 60 Hard Disk	£529.95
External 3.5" Disk Drive	£69.00
Golden Image Hand Scanner	£199.00
Forget-Me-Clock II	£19.95
ST Monitor Switch Box	£14.95
STE Stereo scart lead	£12.99
STFM scart lead	£12.99
STE Stereo MKII 8833 lead	£12.99
STFM MKII 8833 lead	£12.99
Joystick/Mouse extension lead	£4.99
Replacement Mouse lead	£3.95
Standard Parallel lead	£5.95
Internal PSU for STFM/E	£100.00
Replacement ST keyboard	£100.00
Mouse Mat	£3.50
2 x Midi cables	£6.99
14 pin din plug (ST disk drive)	£2.30
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13 pin din plug (ST monitor)	£2.00

Hard Drives

★ NEW ★ NEW ★

We are now *official stockists* of the latest in high quality / low price ST hard disk drives from Protar. All Protar hard disk drives come with a full 12 month REPLACEMENT warranty (no lengthy repairs!!), a DMA through port, device number switching and *Protar hard disk drives are the only manufacturer with the ATARI COMPATIBILITY seal of approval.*

★ PHONE NOW ★

Phone us today for prices. Hard disk sizes ranging from *20MB to 440MB* including removable tape streamers.

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DIY 1 - 512k upgrade	£29.99
DIY 2 - 2mb upgrade	£89.00
DIY 4 - 4mb upgrade	£159.00

All STE Ram Kits come with instructions and DO NOT require soldering in most machines.

ST Software Packs

For contents of the ST software packs - see the listing of ST computer ranges on the opposite page or phone us for details.

Discovery 1 Pack Software	£16.99
Discovery 2 Pack Software	£16.99
Extra Pack Software	£39.99
Tenstar Pack Software	£29.95
Power Pack Software	£34.99
Curriculum Pack Software	£39.95

ST Midi Software

Gajits Sequencer One	RI.NG
Dr.T Tiger Cub	RI.NG
C-Lab * *ALL PACKAGES* *	RI.NG
Steinberg * *ALL PACKAGES* *	RI.NG

TT

The amazing 32Mhz TT030 is now available in the following configurations :

2mb ram, 40mb h/disk	£1699.99
4mb ram, 40mb h/disk	£1999.99
8mb ram, 40mb h/disk	£2199.99
Hi res colour monitor	£440.00
19" Hi res mono monitor	RI.NG

Mice

Contriver 5-in-1	£21.00
Contiver Trackball	£29.99
Golden Image Optical	£RI.NG
Logitech ST	£29.95

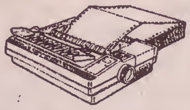
PRINTERS

ACCESSORIES & RIBBONS

All of our printers come with a parallel cable to suit Atari ST, Amiga and all standard PC etc (other cables available at extra cost - ask for details). All printers carry a full 12 months warranty. We only sell genuine UK stock - we do not offer inferior "grey imports".

CITIZEN

** 2 YEAR WARRANTY **



SPECIAL OFFER! *All Citizen Swift 9,24 and 24X printers come with a FREE colour kit and colour ribbon until the end of May 1991.*

SPECIAL OFFER! *For a limited period only we are offering a CITIZEN PRINTER STARTER PACK with all Citizen printers. The pack comprises of : 3.5" disk full of printer drivers for the ST, Amiga & PC; 200 sheets of fanfold tractor feed paper; 200 fanfold tractor feed address labels; 5 tractor feed envelopes all for only £12.99 on top of the price of the printer*

Citizen 120D + (9-pin)	£139.00
Citizen Swift 9 (9-pin) ***FREE COLOUR KIT***	£199.00
Citizen 124D (24-pin)	£209.00
Citizen Swift 24 (24-pin) ***FREE COLOUR KIT***	£299.00
Citizen Swift 24X (15" 24-pin) ***FREE COLOUR KIT***	£399.00

CITIZEN RIBBONS

120D / Swift 9 Black Ribbon	£4.50
124D / Swift 24 Black Ribbon	£4.50
Swift 9 / Swift 24 Colour Ribbon	£16.00
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Swift 24X Colour Ribbon	£18.00

CITIZEN ACCESSORIES

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124D / Swift 9 & 24 Automatic S/Feeder	£79.99
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Swift 24X Colour Kit	£39.99
Swift 24 Font Cards (6 different) each	£35.00

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Star LC24-200 Colour (24-pin)	£295.00
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STAR RIBBONS

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Star LC200 Black Ribbon	£5.00
Star LC200 Colour Ribbon	£10.00
Star LC24-10 Black Ribbon	£4.75
Star LC24-200 Black Ribbon	£7.50
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Canon BJ10E Portable Bubble Jet	£289.00
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Panasonic KXP 1124i (24-pin)	£279.00

ACCESSORIES

Canon BJ10E Sheet Feeder	£59.99
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Canon BJ10E Ink Cartridge	£19.99
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AMIGA

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Golden Image Hand Scanner	£199.00
Amiga Stereo scart lead	£12.99
Amiga Stereo MKII 8833 lead	£12.99
Standard Parallel lead	£5.95
Mouse Mat	£3.50
2 x Midi cables	£6.99

Software

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Vidi Amiga video digitising	£99.99
Astra Software Pack	£29.95

8833 MKII

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The Philips 8833 MkII is the perfect colour monitor for ST and Amiga owners. With its stereo sound and super quality picture it really shows off the full capabilities of the STE and the Amiga. The Philips 8833 MkII also comes with 12 months on site warranty FREE!

8833 with STFM cable	£249.99
8833 with STE cable	£249.99
8833 with Amiga cable	£249.99

LYNX

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Lynx Console (with free California Games cartridge)	£117.50
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Carrying Pouch	£11.99
Car Power Adaptor	£9.50
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ALL ATARI ST PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.	512k	1mb	2mb	4mb
ATARI STE STANDARD PACK. consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.	£269.00	£299.00	£329.00	£409.00
ATARI STE DISCOVERY 1. consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack)	£279.00	£309.00	£339.00	£419.00
ATARI STE DISCOVERY 2. consists of the Standard Pack and First Basic, ST Tour, NeoChrome and 4 games (Dragons Breath, Super Cycle, Indiana Jones, Anarchy)	£279.00	£309.00	£339.00	£419.00
ATARI STE TENSTAR. consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek and Trivial Pursuit II	£289.00	£319.00	£349.00	£429.00
ATARI STE POWER. consists of Standard Pack and 20 top selling arcade games (for individual game titles see the black box on the bottom left of this page).	£289.00	£319.00	£349.00	£429.00
ATARI STE EXTRA. consists of Standard Pack and Kuma word processor, database, spreadsheet & business graphics as well as First Basic, Hyper Paint, STAC Adventure game designer and Prince game.	£289.00	£319.00	£349.00	£429.00
ATARI STE CURRICULUM. consists of Standard Pack and also 3 levels of educational software (from 5 yrs to 50 yrs !!!), a word processor, a spreadsheet, a database, HyperPaint and Music Maker II software.	£299.00	£329.00	£359.00	£439.00

AMIGA PACKS

ALL AMIGA PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS ARE UK STOCK AND CARRY A FULL 12 MONTH COMMODORE WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.

AMIGA A500 BASE PACK A500 computer, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software * STOCKS VERY LIMITED - SO HURRY *	£299.00
AMIGA A500 1MB PACK A500 computer with extra 512K ram expansion, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software. * OUR RAM EXPANSIONS *DO NOT* INVALIDATE YOUR WARRANTY *	£325.00
AMIGA A500 ASTRA PACK A500 512k computer, mouse, tv modulator, manuals, Workbench, etc supplied with 10 great software titles (see A500 1MB ASTRA pack below for details)	£325.00
AMIGA A500 1MB ASTRA PACK Amiga A500 computer, 512K Ram expansion with clock and battery back-up, mouse, tv modulator, manuals, Workbench etc disks, plus the ASTRA 10 games pack including the following games : Datastorm, Dungeon Quest, E Motion, Grand Monster Slam, Kid Gloves, Powerplay, RVF Honda, Shuffle Puck Cafe, Soccer and Tower of Babel	£350.00
AMIGA A1500 BASE PACK A1500 1Mb RAM (expandable to 9Mb) computer with 2 x 3.5" 880k disk drives built in, and a mouse. The A1500 base pack is supplied with no software.	£599.00
AMIGA A1500 PACK A1500 1Mb RAM (expandable to 9Mb) computer with 2 x 3.5" 880k disk drives built in, mouse and the following software : Platinum Works, Deluxe Paint 3, Populous, Simm City, Battle Chess, Their Finest Hour (Battle of Britain) and 2 books : "The A-Z of Computer Jargon" and "Getting the most from your Amiga"	£655.00

IT'S BACK !! - THE POWER PACK !!

Due to massive customer demand, we are proud to announce that we now have further stocks of our best selling Atari ST software pack comprising of.....

Afterburner, R-Type, Gauntlet 2, Super Hang-On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Bombuzal, Bomb Jack, Double Dragon, Black Lamp, Out Run, Star Goose and Star Ray.

All of the above games are available in the Power Pack Software pack for only (STOCKS LIMITED - SO HURRY) -

£34.99 - thats less than £1.75 each !

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OR USE YOUR ACCESS OR VISA AND RING OUR TELESALES ORDER HOTLINE AT ANYTIME BETWEEN ***10.00 AM AND 12.00 MIDNIGHT,*** *MONDAY TO SATURDAY, AND SPEAK TO ONE OF OUR FULLY TRAINED STAFF ON :*

Access

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ADD £7.00 INC VAT FOR NEXT WORKING DAY UK DELIVERY FOR ORDERS PLACED BEFORE 2 PM

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N.B. ALL PACKS COME WITH LATEST UK VERSION OF AMIGA 500, MODULATOR, PSU ETC

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TOTAL RRP £489.75

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★ A500 Computer	RRP £399.95
★ Spritz Paint Super Paint Package	RRP £49.95

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★ A500 Computer	RRP £399.95
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★ Pack of ten disks	RRP £9.95

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- ★ Memory on/off switch
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Box of 10 branded TDK 3.5" DS/DD	£7.99
Box of 50 3.5" DS/DD with labels	£18.99
Box of 100 3.5" DS/DD with labels	£35.99
Box of 250 3.5" DS/DD with labels	£79.99
3.5" disk drive cleaning kit	£3.99
Disk Boxes	
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3.5" 40 capacity lockable box	£4.95
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3.5" 80 capacity Van 3 (slim design)	£7.95
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★ 40 Capacity lockable disk box	RRP £9.99
★ 3.5" Disk drive cleaner kit	RRP £9.99

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Starter Kit Price £64.99

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- ★ Enclosed in protective shielding
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Just look at what you get:-

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The Italian Tutor	RRP £19.95
The Spanish Tutor	RRP £19.95
Metacomco Basic	RRP £24.95
Total RRP	£104.75

1Mb STE	£299.99
2Mb STE	£349.99
4Mb STE	£429.99

SM124 Mono Monitor (when purchased with ST) only £99.95

THE NEW AMIGA 1500 ONLY £669.95 INC VAT

Not only does the Amiga 1500 accept all standard Amiga 2000 peripherals but can also be upgraded to full IBM compatibility. Just feast your eyes on what you get:-

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- ☆ A-Z of Computer jargon.
- ☆ "Get The Most Out Of Your Amiga":- Two introduction books.
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This pack with 1084S colour monitor

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STAR PRINTERS

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LC200 Colour 9 Pin, 180/45 cps, 16K Buffer	£199.95
LC24-200 Mono 24 Pin Dot Matrix, 200/67cps	£239.95
LC24-200 Colour 24 Pin, 200/67 cps, 30K Buffer	£289.95

CITIZEN PRINTERS

120D+ Mono 9 Pin Dot Matrix 144/30 cps	£139.95
Swift 9 Colour 9 Pin, 192/48cps, 8K Buffer	£189.95
124D Mono 24 Pin Dot Matrix, 144/48cps	£199.95
Swift 24 Colour 24 Pin, 192/64cps, 8K Buffer	£289.95
Swift 24 x Colour 136 column version of above	£389.95

PRINTER ACCESSORY PACK

Only available when purchased with a printer.

- ★ Parallel printer cable - RRP £14.95
- ★ 200 sheets listing paper - RRP £6.95
- ★ Quality tailored dust cover - RRP £12.95

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PACK PRICE £9.95

with printer stand

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Please add £6 courier delivery for orders over £100, add £2 p&p for orders under.

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33MHz and beyond. The board also has room for SIMM RAM boards and due to its unique design you can add up to 12Mb of memory to your ST.

Gadgets by Small Incorporated's board will be available in this country within a couple of months from Ladbrooke Computing.

☎ Telephone 0101 303 791 6098.

Fast Technology's 20MHz board makes your ST three times faster. However, you'll need to do a lot of soldering to fit it. Software compatibility is high and the price is a very reasonable at $329 (about £200). Available from Fast Technology, PO Box 578, Andover, Ma, 01810, USA.

☎ Telephone 0101 508 475 3810.

MONEY MATTERS

It's always the same old story. Half way through the month you suddenly discover that the contents of your bank account won't even cover the cost of a packet of polos. The solution is to budget correctly, but that's easier said than done.

Home Accounts 2, from Digita International, is the answer. This nifty icon driven program lets you to enter all your incoming and out-going money. What's more it'll keep track of standing orders, interest and VAT.

Initially the program requires information on your wages, your savings and all the various outgoings you have each month. Once these are in place, you can compile a 'net worth' report which will explain in no uncertain terms exactly where you're going wrong dosh-wise.

Three different types of graphs can be generated to show visually what your money is up to. Then once you have a few months worth of data in memory, you can analyse just why it is you spend more money at the start of the month and on Fridays!

Home Accounts 2 costs £54.95.

☎ Telephone Digita on 0395 270273.

LETTER FROM AMERICA

Sam Tramiel, Atari's president, has posted his end of year report for stockholders. While most of it is boring stuff about liquidation and debentures, there are some nice nuggets of information in there. His sales pitch follows what we've been hearing from the profitable UK sales arm:

"The Company's balance sheet improved, resulting in net income of $14.9 million for the year. We are investing in new product research and development and this should help position the company in the years to come.

"We are also concentrating on reducing our operating costs by various means including the expansion of independent subcontractors for production purposes."

This means we'll start seeing a lot of new stuff appearing from the Atari stable. 1992 is going to be a very interesting year for Atari fans. What will the company do after Pad (just renamed STyle), Notebook, STT, Panther and the Mega STE? Find out first in this column.

Andy Hutchinson

CPC

- **Do arcade conversions have to be pale imitations?**
- **Good and bad news for adventure game fans**
- **New Amstrad-dedicated BBS that runs on a CPC**

ADVENTURER NEWS

Sad news for adventure fans everywhere is the official demise of Henry Mueller's Adventurers Club. Mueller also owns and edits the club's magazine. No news yet of his future plans, but he is promising all existing members will be reimbursed.

But on a lighter note, adventure specialist Topologika has announced that it will be releasing a new espionage thriller in the autumn!

Called *Spysnatcher*, it's by Jon Thackray and Jonathan Partington. I don't know any more than that yet, except that it will cost around £15. Topologika produces rather good text-only adventures, so it should be good.

NEW BULLETIN BOARD

Comms fans will be interested to learn of a new bulletin board. It's called The Dock, and is run on a CPC6128. It has file areas for both the CPC and PCW.

SCULL PUBLIC DOMAIN LIBRARY LATEST

That lad Alan Scully will go far. I've just received a new copy of his PD library magazine *CPC Domain*, and it really is extremely good.

It's not free, costing £1.25 an issue. However, if you take out a year's subscription (£15) you get a free copy of *Pagemaker Deluxe*. This is an improved version of the public domain program *Pagemaker Plus*, but *Deluxe* is not public domain. Normally it costs £5 – but that does include disk, postage and packing!

Getting back to *CPC Domain*, the magazine is very well produced. It contains some 40 pages packed with news, reviews and articles designed to help you get the most from your CPC.

It also has a catalogue of all the software in Scull PD's library, which now contains over 120 disks.

If you want to get in touch, note that Scull PD has moved (again). The new address is: 119 Laurel Drive, East Kilbride, Glasgow G75 9JG.

WE MUST BE MAD

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For the technical, the board is being run with ROS software on a 6128 with a second drive using 800K disks. There's also a 256K silicon disk for messages. The modem used is an Amstrad SM2400 auto-answer running at V21,22,23,23bis.

The owner and sysop is Terry Youll, who has set aside areas for CP/M, AmsDOS, Z80, graphics and more. 'Opening times' are 10pm to 8am daily. ☎ Telephone 091 454 6978.

MICROSTYLE FEARS

Several times I've run stories in this column about peripherals supplier Microstyle, but it seems some readers have been having trouble with the company lately.

Orders are not being filled, and buyers are unable to contact the company to find out why. I'm not sure what's happening right now with Microstyle, but as soon as I know more I'll let you know.

UP WITH PROTYPE!

NM Harrison of Redcar, thinks that Arnor's new print enhancer *Protype* is excellent news:

"This will really make the *Protext* range, with its line graphics and boxing system, a perfectly acceptable DTP package. A high standard of output can be achieved, I am sure. All we need now is the capability to import screens. Well done, Arnor, we didn't think you had deserted the CPC for a minute."

I quite agree! Mr Harrison's not finished yet, though...

"I would like to draw your attention to Fritz Obermeier Computing, a German company which develops some great kit for the CPC.

"The company has on the market a memory expansion kit which allows you to add a little more than 256K to your CPC. Fritz's little add-on is able to bring the CPC memory all the way up to 512K! Not all that much by today's standards, but I feel it may be one of the best for an 8-bit computer.

"Also, do you remember about two years ago, a British company was developing a hard disk for the Amstrad? Well, Fritz has beaten them to it.

"I'm not sure of the prices of these pieces of kit – something around £150 for the memory, I think.

"You can find Fritz hanging around your dog and bone if you hit the following buttons: 01049 5732 3246 (or you could in January)."

Rod Lawton

LASSIE TURNS HOMICIDAL IN KUNG FU CONVERSION

I've had a few harsh words to say in the past about some of US Gold's arcade conversions. The trouble is, arcade games run on machines with zillion times more power than the CPC and arcade games themselves are usually distinctly short on gameplay, but boast incredible graphics and sound.

The (all too predictable) result when you convert an arcade game to 8-bit micro format is a game with no gameplay and disappointing graphics and sound.

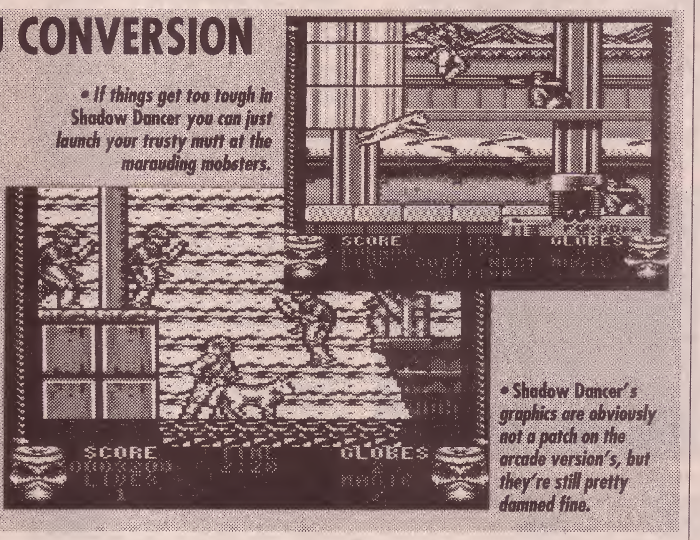
However, *Shadow Dancer* is an exception. Admittedly, the graphics can't match those in the arcades, but the Amstrad version still looks great. And it's not a bad game in its own right.

The gameplay is nothing out of the ordinary; it's a pretty standard scrolling martial arts kick-'em-up. Your aim, ostensibly, is to prevent some nasty saboteurs from wrecking a space shuttle, but in practice you just have to concentrate on kicking hell out of whoever you meet on your way.

There is a difference, though, you have a dog. Your faithful mutt is not the kind that just fetches your slippers or curls up in front of the fire. Instead, with a word from you, it will leap ferociously at enemy attackers.

The graphics are all done in 16-colour mode, but they are very impressive, proving quite sharp and detailed. The animation's not great, but it's smooth enough.

Shadow Dancer isn't really my cup of tea, but as an example of the martial arts genre, and as an ambitious arcade conversion, it comes across very well.



• If things get too tough in Shadow Dancer you can just launch your trusty mutt at the marauding mobsters.

• Shadow Dancer's graphics are obviously not a patch on the arcade version's, but they're still pretty damned fine.

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C64

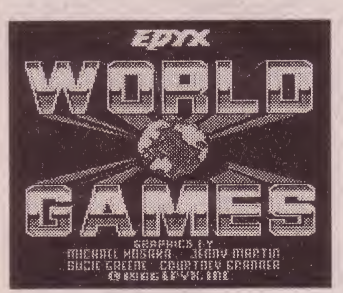
- Re-release market flooded with classic software
- Batman returns to Gotham City (again)
- 3-D Construction Kit set to make huge impact

GLOBAL GAMING

The first game under scrutiny is one of the best sports sims around.

WorldGames is the cream of the Epyx crop, and the best game to play with a load of mates. There are eight events in all, most being some country or other's national sport – hence you travel to a new country for each event.

The first is weight lifting in the USSR. There are two types of manoeuvre, the snatch and the clean and jerk, and players have to work their way up various weight combinations.



• World Games ***is the best of the Epyx simulations, and offers a stunning variety of events for up to 8 players.***

Next is barrel jumping in Germany, which is as entertaining as it is novel. Players choose a number of barrels to leap over, and following a co-ordinated skate the contestant leaps into the air. You never know if the leap is successful right until the last barrel!

Then it's off to Mexico to jump off a few cliffs. There are a number of ledges down the cliff face, and the player can choose to jump from any one of these. If the winds are particularly strong, the lower ledges are the safest bet. A number of tucks/moves can be performed on descent, and if you manage to dive successfully vast amounts of points are awarded.

Now it's time to put on your thermals for the ski-slalom in France. Probably the weakest event, as it is just a case of negotiating the slalom course in the shortest possible time. It takes fast reflexes to reach the finish in one piece, but it is quite entertaining to watch a friend career into the onlookers!

For budding lumberjacks there is the Canadian log rolling event. You can play against another player or the computer; the slightest fault can send you to a soggy end.

Next is my favourite – bull riding. The player has to observe the bull's movements very carefully, and in turn compensate for the jerks and twists. Steers range from docile to raving mad!

Then on to caber tossing in bonnie Scotland. This is very tricky, as you can easily drop the caber on the run-up – it gives me bunions just thinking about it! To make things worse, the caber must be thrown a specific distance which serves to increase the frustration.

The final event is sumo wrestling in Japan. Similar to the log rolling, your opponent can be either another player or the computer.

The game was released over four years ago, but it doesn't show its age. The usual Epyx presentation is evident; the graphics are superbly detailed and animated, with all manner of hilarious touches (witness the weight lifter falling through the floor, or the cliff diver peering over the cliff edge). The music too is superb, with the caber tossing's bagpipes being simply awesome.

It's been out on cassette at £2.99 for some time, so now's your chance to buy the disk version for a mere £4.99.

DON'T BELIEVE THE HYPE

Unless you live in an air-tight box, the mention of the *Batman* film conjurs up images of massive merchandise/hype/licensing campaigns.

Surprisingly, the game-of-the-film (released in late 1989) turned out to be one of the best licences ever. The plot of the film was followed closely indeed, and is divided into five levels.

Level one takes place in the AXIS Chemical Plant. Our superbly detailed crusader explores a multi-directional landscape, killing adversaries as he

HOW SOON SHOULD A GAME BE RERELEASED?

Games, games, games. The budget market (at least, re-releases) is overflowing at the moment, but new full price releases are few and far between.

One of the main labels to look out for is KIXX, and if you keep your eyes open, it is possible to pick up some real gems. Similarly, the Hit Squad has many classics in its collection.

The only aspect I disagree with is when a game can be re-released. I'm sure everybody out there has experience what I term 'TPO Syndrome' – you splash out a small fortune on a game and as if by magic, it appears at a fraction of the price four weeks later...

Even worse than this are the compilations, where you could pick up an extra four or five games for the price of just one original title.

Perhaps software houses should consider employing a three or four month 'settling' period, in which time a game cannot be re-released.

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794	Colossal Adventure - World Adv.
715	Pipeline
761	Battleforce
730	Frantic Freddie - Good game
751	Arcadia
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goes. The level is a cross between *Robocop* and *Bionic Commando*, as our hero can use a handy bat-rope to climb up to unaccessible platforms. At the climax of the level Jack Napier is encountered (cue dramatic music), and ultimately dropped into an acid vat.

Level two features the batmobile racing through Gotham City. When prompted, the car must be directed down side streets and the like, which can prove very difficult.

Level three is a *Mastermind*-esque puzzle section, where the chemical elements of 'Smilex' must be identified within a set period. The music here is eerie enough to give you a severe attack of the jitters!

Level four is similar to level two, except that Batman is now at the helm of the Batwing. Various carnival floats litter the streets, and the Batwing must be used to cut the tethered balloons free. Once a designated quota have been cut free, it's on to the final level.

This takes place in Gotham City Cathedral, in a similar style to level one (only with rats). There is a confrontation with the Joker at the end of the level.

Batman is a truly excellent film tie-in. The graphics have a very sombre and murky feel, much like the film itself, and Matthew Cannon's music is brilliant. However, it's the varied (and addictive) gameplay which wins through and will keep you occupied for weeks. *Batman* is from the Hit Squad, and costs £2.99.

Andrew Roberts

SPECTRUM

- ***Power Up* your Speccy to avoid those summer blues**
- **How to make *Tasword 2* Plus 2 and Plus 3 friendly**
- **A plethora of pokes for all the hottest Spectrum games**

COMPILATION TIME AGAIN

About this time of year software houses, in their infinite wisdom, don't release many new games for the Speccy and you generally have to make do with re-releases, cheapies and compilations. But don't get too depressed because there's plenty of stuff for you to play over the wet, cold summer.

Compilation-wise one of best things to hit the streets of late is *Power Up* from Ocean. Costing a hefty(ish) £16.35 (£19.99 on disk) it comprises some of the highlights from the last few years of Speccy arcade games.

First there's *Rainbow Islands*, a game so cute you can't help cuddling it from time to time. It follows on from similar fluffy success stories like *Bubble Bobble* and gained universal acclaim when first released.

As is often the case, the Speccy version actually plays the best of any format and you'll gasp at the amount of colour splashed over the game's deviously designed platform-filled screens.

Also colourful, but definitely not cuddly, is *Altered Beast*. In this Activision game you control a nicely drawn and decidedly beefy hero who can change into various animals as he makes his way through the usual treacherous landscape.

Visually exciting with bigger sprites than you'd think the Speccy could cope with, it unfortunately all goes a bit wrong in the gameplay department. Basically it's not much fun to play.

This is a criticism you could not level at the Speccy version of *Chase HQ*, an absolute corker by any standards and cleverly gives the weary old driving game a bit of much needed purpose.

Rather than a straightforward race along twisty, smooth scrolling roads you have to chase criminals and bump them off the road. The scenery moves past at a whizzing rate which fair restores your faith in the Speccy's abilities even after all these years.

The last two titles on *Power Up* are

(Continued on next page)

GETTING DOWN TO SOME REALLY SERIOUS POKING

I'm always printing pokes that give you infinite lives, energy or similarly impressive benefits in games, but here for a change are some tips of a more serious nature.

They were sent in by Michael Hodgkinson and do wondrous things to *Tasword 2* to make it Plus 3 friendly. Take it away, Michael...

"*Tasword 2* will not work properly on the Plus 3 or probably the Plus 2. The word change routine uses the printer buffer and so the program crashes if you try to use the function.

"To relocate the text into the help page do the following:

1) In line 3000 change 23296 to 23363
2) In line 4000 change 55296 to 55363
3) Poke the following locations with 216 (replacing 91):

```
EAAC = 60076     EAE7 = 60135
EB1E = 60190     EB21 = 60193
EB37 = 60215     EB3D = 60221
EB78 = 60280     EBBB = 60347
EBED = 60397     EBF2 = 60402
EC12 = 60434     EC53 = 60499
```

"Some might think that a bit untidy. Well it is but it's easy and I don't know about you but the help I need ain't on that page anyway. I like the old *Tasword* you can mess with it and write your own bits of BASIC. I poked these numbers from the BASIC and checked them against the program at the same time."

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straightforward shoot-'em-up arcade extravaganzas. *X-Out* is a horizontally scrolling *R-Type*-esque game set under water. Graphics are predictably murky and it tends to look a bit dull next to the dazzling stuff it nestles amongst in the same pack but still has a fair amount to offer shoot-'em-up fans.

Lastly there's *Turrican*, a game that attracted gushing praise when unleashed a few months back. Graphically it's very impressive, again using the Speccy's spectrum to full effect. You get a lot of game for your money with loads of levels to shoot your way through.

All in all *Power Up*'s a very worthy compilation and if you missed out on this little lot the first time round, salvage your credibility and invest in it without delay.

ERRATUM PLUS

The distinctive smell of cock-up was in the air a few weeks back (*Express* 133) when most of Mark Harris' hack for *Slightly Magic* disappeared into the mistake zone. It was probably down to a computer error but that's what happens when you use Macs. Anyway, here it is again in full (with any luck). Sorry!

```
10 REM SLIGHTLY MAGIC
55 FOR N=23434 TO 9E9: READ
    A: IF A<999 THEN POKE
    N,A: NEXT N
56 POKE 32018,91
80 DATA 33,147,91,34,145,97,
    195,138,97,175
90 DATA 50,246,159: REM MAGIC
100 DATA 50,15,160 : REM
    LIVES
110 DATA 195,158,102,999: REM
    END MARKER
120 MERGE "": RUN
```

POKEMANIA

Now that's cleared up, here's some Mult-iface pokes for you courtesy of the very nice Alan Johns.

In return for the millions of pokes Alan provides us with he wants me to say hello to Jenni and his pals at school. I'm an a obliging sort so, erm, "hello". Oh and good luck with your exams Alan! And the same goes for anyone else similarly afflicted at the moment.

● *Midnight Resistance*	
40364,0	Invulnerable
40126,244	Resets bullets
● *Toobin*	
61721,0	Lives
● *Cabal*	
39245,201	No baddies
39202,201	Smart Bombs
● *Batman*	
24336,201	Invincible
24881,201	Lives

MAKE MY DAY

If you've got anything remotely Speccy related you want to share with your fellow Spec chums send it to me, Robin Alway, at the following address: Spectrum Column, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

Robin Alway

MACINTOSH

- **Apple's marketing targets small businesses**
- **System 7: just how much memory do you need?**
- **DiskDoubler – an essential space-saving utility**

RUMOURS...

Apple has launched a major campaign, "to encourage small businesses to look at their needs and consider Apple Macintosh as a key tool for success".

This takes the form of a direct marketing campaign, costing £150,000, in which 100,000 businesses will receive an invitation to send off for a booklet called *Apple Macintosh in Business*. It will tell them that they just can't consider themselves proper businesses unless they own the odd Mac or ten.

To accompany this, 60 Apple Authorised Dealers have each assigned a 'small business manager' to cope with the expected huge demand. Small business manager? You're better off banking with Apple...

Apparently Apple is sending out prototypes of its three new laptops to selected sites in the United States. Reports suggests that they are very similar to the predicted specifications, so with a bit of luck they should be on schedule for a September or October release date.

SYSTEM 7 STUFF

A few bits this week:

● There is a debate on CIX at the moment about whether a 2Mb machine is useable under System 7.

The consensus seems to be that it isn't – with more than the basic set of fonts installed, it's almost impossible to find any applications which will run in the remaining memory.

Apple seems to be in the process of upgrading all the machines it sells so that the minimum models come with 3Mb (all except the Classic, anyway), so it looks like the company is finally coming to the same conclusion.

One contributor to the debate pointed out that it is, in fact, possible to run System 7 on a 1Mb machine – as long as all you want to do is select 'Restart' from the Special menu...

● Here's a neat use for Aliases if you have a number of Macs on a network:

Make an Alias of your entire hard disk (select the hard disk icon and Make Alias... from the File menu) and put it on a floppy disk.

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machine, you can still access all your files by putting the floppy into another machine on the network: double-clicking the alias is effectively the same as double-clicking on your hard disk icon – the Mac transfers the relevant details over the network.

OK, it's not as fast as actually using your Mac, but it could save you considerable hassle.

The longer System 7 is around, the more neat little tricks people will come up with (that one, incidentally, was courtesy of an Apple employee). If you've come up with any 'different' uses for System 7 features, drop me a line and let me know.

- There's still no sign of a System 7-compatible version of *Norton Utilities* for the Macintosh. Since this is a virtually indispensable package, it would be rather nice if the company could get a move on...
- Rumours that *Disinfectant 2.5* would soon be appearing, as an upgrade so that it would work properly with System 7, seem to be ill-founded.

The word from the program's author is that there will be a short delay, and that the next release of the program will be version 3.0, which will contain things like balloon help.

Actually, the current version of *Disinfectant* works perfectly well with System 7, although you are advised to take the *Disinfectant* INIT out of your System folder before you upgrade and then replace it afterwards.

- Adobe has sent out a press release detailing which of its applications are System 7-ready. The most annoying incompatibility is *ATM*:: although it works to a certain extent, it's not 32-clean until the next upgrade. And even then it won't be able to find printer fonts unless they're loose in the System folder, so you can't just stuff them all into a folder and forget about them.

This is yet another argument for converting all your fonts to TrueType with *Metamorphosis Professional* (see last week's column): that way, they'll display fine on-screen without the need for *ATM*.

DISKDOUBLER

DiskDoubler is a fabulous INIT which performs, 'on the fly file compression'. In other words, it compresses your files so that they take up less room on the disk than would otherwise be the case (often saving as much as 50 per cent of the disk space) and decompresses them when they're needed.

It really is worth having, especially if you're short of hard disk space. The current version, however, has one problem; it doesn't work with System 7.

However, a new version should be available 'Real Soon Now' which does – and which should also provide improved data compression working at even faster rates.

Indeed, a press release we received last week from the American manufacturers claimed that the new version will be shipping on June 1, although it will probably be a few weeks before it's available over here.

☎ You can obtain further details by contacting the distributor, Amtech International, on 0202 476977.

Ian Wrigley

POSTCARD FROM AMERICA

How can I describe the incredible joy I experienced at the System 7 rollout in San Jose?

Did this rapture stem from the groovy technology displayed? No, although it was impressive.

Perhaps from the spelling lesson the crowd received, learning that new Macintosh system software is *System 7*, not Seven Point Oh, or 7.0?

Nope! It was getting to play the naughty boy, asking all the horrible questions the marketroids didn't want floated.

System 7's incompatibility with Apple's own hardware and software caused some obvious squirms. The top of the line, 8•24 Display Card, is a RISC-based 24-bit colour display card for the Macintosh II family. It has a special optimised version of *QuickDraw* that cooks complex graphic images and applications. The card will display under System 7, but will not accelerate. Apple says that a fix is in the works, sometime this summer.

Apple probably would have preferred to have delayed shipping another couple of months to take care of the seemingly endless supply of bugs, and incompatibilities. But intense internal and external pressures pushed them to finally get it out the door.

Investors needed a bit of good news after the beating the stock has been taking this spring. A couple of programmers claimed that there would have been a developers revolt if the software had not shipped before the May World Developer's Conference. System 7 hit the shelves on the WDC's opening day—what a surprise!

Users with internal and external hard disk drives have a lot of choices. I have System 7 running on my internal drive, and the latest flavour of 6.0x on the other. When I need to use programs that hate new systemware, I hold down Command, Option, Shift and Delete when booting. This prevents the internal drive from mounting.

If you can't find some of your files, look for the Desktop Folder. This is invisible under System 7, but is revealed with older versions. There's also a folder called Trash, which may hold files that you thought you'd thrown away. They now stay in the can until you purposefully empty it. Progress.

David Morgenstern

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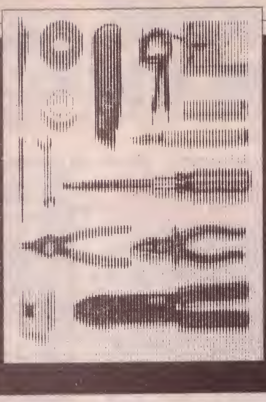
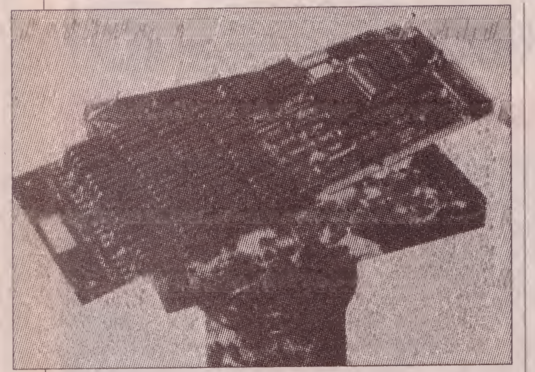


CIRCUIT CITY

Programs get bigger and faster by the day,and the spacious 32K of 10 years ago wouldn't even run the title screen today. Keith Pomfret looks how to add memory to Amigas and PCs



• The 32 Mb Hyper-Ram memory board for the PC. Adding this monster to your 286, 386 or 486 gives you memory as large as most hard disk drives!

The standard 512K of the Amiga A500 and PC seemed like a bottomless pit a couple of years ago. Programmers used to compressing code into 32K and 64K 8-bit machines were quick to take advantage of this huge half-megabyte memory – it seemed like an answer to their prayers.

With the better machines came higher demands in sound, graphics and processing power and all of these overheads greedily gobbled free memory until the ballroom like 512K became extremely constricting. Programmers were able to write programs to take advantage of more memory and upgrades became available. At first the upgrades were rare, expensive and unreliable and in the PC they needed software to take advantage of them.

AMIGA – AN EASY UPGRADE

The Amiga A500 is the easier of the two to upgrade. The specification allowed for a trapdoor underneath it that houses a slot for the addition of a board with 512K of memory on it. Commodore makes a memory expansion board that also contains a battery backed real time clock. This is the only 'official' upgrade for the trapdoor and although it is of high quality, it isn't generally the cheapest. Upgrades for the trapdoor fall into three categories. Firstly there are those which are simply a board with 512K on board. Secondly there are those like the Commodore offering 512K plus a real time clock and thirdly there are those which offer more than 512K and up to about 4Mb in the trapdoor.

SIMPLY FITTED

Fitting the first types is simplicity itself. Unplug the Amiga, remove all of the peripherals, drives, printers etc from the rear panel and turn the Amiga upside down. Remove the trapdoor, slide the memory expansion in and reverse the process. It takes a couple of minutes and when you fire up the Amiga again, there's more memory showing on the Workbench screen. To make life awkward, there are a few games that won't run with a memory upgrade fitted. For that reason, it's best to get a switchable upgrade that can be switched off rather than having to be removed each time. Constant removal and replacement will soon wear out the connectors.

Finally, there's the kind of memory that goes beyond 512K in the trapdoor. Fitting these boards that can have up to 4Mb on board is as simple as the 512k counterpart. However, because the Amiga wasn't designed to take more than 512K in the trapdoor, more drastic measures are called for. These memory expansions also need to be attached to the Gate Array chip (GARY) on the main board. In order to do this, it's necessary to open up the Amiga and risk your warranty.

This is more of an awkward than a technically difficult one. It involves removing the nine screws that hold the A500 together, unfastening and taking off the metal shield and removing the GARY chip. The patchlead from the memory expansion board goes into the socket vacated by the GARY chip and the GARY chip plugs into the patchlead.

Finally, there are memory expansions that plug directly on to the expansion port. These can be up to 8Mb and fitting them is simple. The plastic blanking cover is removed from the expansion port and the expansion is slid into the socket.

With the better machines came higher demands in sound, graphics and processing power, gobbling up free memory

UNDERSTANDING A PC's MEMORY

Before you upgrade your PCs memory, it's important to understand how a standard PC uses its memory. The 8086 chip that the PC was originally based on is capable of addressing one megabyte of, but the quirky PC operating system reserves the 384K between 640K and one megabyte for itself.

The most common PC memory upgrade is the 128k upgrade between the former standard 512K and the now standard 640k. Many PCs were shipped with 512K on board but with sockets or board space for the extra 128K.

Almost every application ever designed for a PC will run within 640K, so if you've 640K on board you should be OK. If you only have 512K and want the extra 128K, first of all unplug and open your machine. (There are many different kinds of PC and you are advised to follow the instructions for your particular model.) If upgrading is intended as an option, this should be mentioned in the manual. If you're lucky, the spaces for the upgrade chips will be socketed. If this is the case it is a simple matter of sliding the RAM chips into their sockets. You should check to make sure that they are aligned in the same way as the other memory chips and that they are of the type specified by the manufacturer. If they're not socketed then it's a soldering job for you. You can either solder the RAM chips directly to the board or, much safer, solder sockets to the board and then insert the chips. This has the advantage that the RAM chips aren't introduced to the high temperature of the soldering iron.

Similar kits of chips and sockets exist for 640K PCs to take them up to the magic megabyte.

THROUGH THE MEMORY BARRIER

Beyond the 640k/1Mb barrier there are 286/386 and 486 PCs that can take a variety of memory upgrades. These can be configured in many ways but basically fall into two categories. There are those which fit directly on to the PCs motherboard and those which fit on to an expansion card.

Once you get into the realms of memory expansion beyond 1Mb you should contact your dealer to check what the best upgrade path is for your needs. If you only do an occasional batch of word processing, you won't need megabytes of memory but if you intend to multi-task CAD and CAM packages, a 640K PC will soon curl up its toes.

Another thing to be aware of with PC memory upgrades is that they're only as strong as the software driving them. In order to persuade a PC to use any extra RAM (and it could be as much as 64Mb on board), you'll need the right software and you'll need to have the memory set up correctly. This could involve setting switches or links and running an installation program.

If you're buying software that can utilise extra memory, make sure that it is compatible with the memory in your machine and that it contains the right drivers to take advantage of the extra memory. ■

WHERE TO FIND THOSE CHIP SHOPS

Amiga memory boards and chips are available from:

Silica Shop	081-309 1111
Ladbroke Computing	0772 203166
Evesham Micros	0386 765500

For PC memory upgrades talk to

The Chip Shop	061 476 3070
Watford electronics	0923 33383
Diamond	0272 693545

Alternatively you could try for a bargain at a computer auction. Ring 0254 813316 for catalogues.

QUICK, QUICKER, QUICKEST

Commodore has been upgrading A500s by adding an extra 512K on the main motherboard instead of using the trapdoor. It then seals the trapdoor. If you've an A500 upgraded in this way, you'll not be able to follow the trapdoor upgrade route.

This isn't as bad as it sounds. The Amiga has three distinct kinds of memory. Chip RAM which is on the main board and is the fastest, Fast RAM which connects to the expansion port and Slow RAM which is anything in the trapdoor. If you upgrade the memory via the trapdoor, you're picking the slowest place to put memory and could be effectively putting the brakes on your Amiga.

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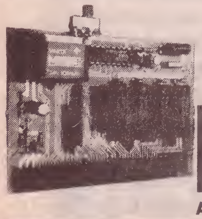

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N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

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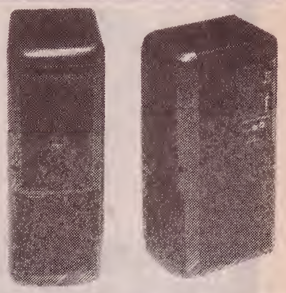

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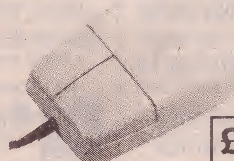

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TECH TIPS

Need some techie advice to get your printer working? Bought a second-hand machine without a manual? Is your monitor giving you a headache? Fret no more. Write to Keith Pomfret, Tech Tips, New Computer Express, 30 Monmouth Street, Bath BA1 2BW.

Synthesis son

I have a son who is musically keen, and is interested in obtaining a synthesiser. Since we have little knowledge in choosing one, could you list a few that would satisfy the following requirements?

a) MIDI - compatible (Atari ST)
b) Multi-timbral
c) Varying range of sounds/voices
d) £100 - £200 second-hand

I have seen the Yamaha PSS range, Roland MT-32 and CASIO CZ-101, but I have no idea whether they are multi-timbrel. Any ideas?

Patrick McDonald, Fife

FIRST THINGS FIRST. Before you can use any MIDI instrument with the Atari ST you'll need some MIDI software. Whether this is one of the cheaper packages like *Quartet*, a full blown sequencer/editor like *Steinberg* or some PD program is up to you. Before you even consider the synthesiser, your son will have to decide what he wants from MIDI. If he wants to use the ST as a complex electronic recording studio then the first thing he'll need will be a sequencer. Other MIDI uses could be sample and patch editing.

If you want a true multi-timbrel synthesiser, The Casio CZ 101 and CZ 1000 won't be much use to you. They have some polyphonic and polytimbrel abilities, but are very limited. The MT-32 is a fully multi-timbrel synth module, but if you want to play it, you need a MIDI keyboard too as the MT-32 is purely a sound generation module.

The Yamaha range of home MIDI keyboards is multi-timbrel and has built in amplification and speakers. However, the sound quality of these keyboards is fine for home use, but wouldn't pass muster in any commercial environment.

Each of the solutions you suggest has pros and cons. If I were attempting to set up a MIDI studio on a budget, I would either go for an MT-32 and a cheap MIDI keyboard to drive it or pass on the multi-timbrel requirement and buy a second-hand pro-quality keyboard.

Remember that with either of these solutions, you'll need amplification to hear the sounds, but it will be worth it.

Revolver

I was hoping you could give me some technical assistance. I have recently seen an article in *Express* which gives some info on connecting a ST computer through an Amstrad colour monitor. Since I was an ex CPC user I decided that I would try it out. I soldered all the bits together as described in the article (NCE 130) and I did get a wonderful clear image - far better than a wobbly telly picture.

Anyway, I do have one small problem – I have got a permanent vertical roll, slow, but there all the same. I don't seem to have a break in the adjustment on the vertical hold knob. It just goes from revolving in one direction to revolving in the other with no stop position. I have to keep fiddling with it every other second to get the picture to stay in one place. Do you have any theories?

If it's any consolation, I connected up my Amstrad to the monitor and it worked away fine. Could you please help me, as it is annoying trying to watch a slowly revolving screen.

Ross Douglas, Aberdeen

YOU SEEM TO have a faulty adjuster. If no amount of adjustment alters the picture, you should contact Combined Precision Components in Preston for a replacement part on 0772 555034.

Sound to light

In the PD section of *Express* issue 126, Frank O'Connor asked if there was a sound/light convertor for the ST/Amiga. "What has this got to do with Circuit City?" I hear you ask. Well, I subscribe to the Maplins bi-monthly magazine, and recently there was a sound-to-light converter. Regrettably, this does not use a computer in its set-up, but it is not too hard to build and the end results are very impressive. Almost any external sound source can be used and the Amiga is no exception.

Perhaps you would consider featuring the project in the future. The stock number from Maplin is LM66P, item description TVFX kit.

Craig Thornton, Lincoln

AND I DON'T think I'd be breaking any confidences if I confirmed that Maplin is a source of inspiration for Tech Tips and Circuit City. It's quite possible to adapt a kit like that to do the job directly from the analogue sound output of a computer and if you've already made and understand the Maplin sound/light box, perhaps you could work out the modification and send it in to Circuit City to be included as a project.

True colours

Do you know of a colour printer driver for the Amstrad CPC, as I have purchased a Citizen Swift 9 colour printer, and would like to be able to print in colour. Details of a supplies and approximate cost would be most appreciated.

Terence R. Ball, Accrington

I DON'T KNOW of the printer driver that you require, but as the advert says: "I know a man who does ..."

If such a driver exists, then the Amstrad CPC group WACCI will either have it or know where to get it from. Give them a ring on 081-898 1090.

• Talk to WACCI to get the best from Swift on a CPC.

STE studies

I will soon be doing my GCSEs and I am considering getting a 1040 STE for my computer studies. I already have an Amstrad CPC 464 and was wondering if my colour monitor would attach to the STE. It's a CTM 664. Great magazine.

Alec Marshall, Sale, Cheshire

YES, IT'S PERFECTLY POSSIBLE to attach a CTM 664 to an Atari STE to get a medium resolution colour display. You will need a special lead to connect to the video out of the STE and into the Amstrad monitor. This particular monitor was designed for use with the Amstrad CPC and people who have used conversion leads to attach the CTM 644 to Amigas, STs and Archimedes have reported different degrees of quality. This seems to be due to the monitors varying from their original specification, but can generally be cured by getting a competent TV engineer to open it up and tweak the adjustments.

The right lead can be bought from RSD connections on 0992 584205 or Simpson Electronics on 0332 760353.

Arc drives

I own a BBC A3000, and I am in need of a second, external 3.5-inch disk drive. By looking through *Express*, I can see that a second drive for the Amiga or ST would cost between £60-70. Similar adverts in the Micro User show that an external drive for the A3000 costs more than £100. Considering that Amiga drives have a greater formatted capacity than A3000

drives (880K against 800K), isn't this a bit of a hefty price?

I am therefore writing to ask whether it is possible to use an Amiga drive on an Archimedes. I know that it is frequently easier to buy the proper item than to do a conversion, but is it viable to obtain a lead to connect the Amiga drive to the A3000?

I would appreciate any help in this matter. I would like to take the opportunity to recommend the Arch PD Public Domain. It is the cheapest (50p a disk) library around for the Arc, and the service is excellent. It is based at 109 Ferry Road, Hullbridge, Essex, and this is not a free plug!

Kenneth MacLeod, Clackmannanshire

I'LL HOLD MY HAND UP and admit that your letter had me beat. The lovely chaps down at Atari and Acorn seemed reluctant to admit whether their respective machines are compatible, but the day was saved by Archimedes expert Michael Stirling who said: "Forget the Amiga drives as the interface isn't standard, but if you can get an ST with a standard Shuggart drive, this should match the Archimedes specification which is also Shuggart. All that you'll need is the leads to connect the computer and drive".

HELP Chocs away

I have a tip for the impoverished 5.25-inch disk user - do not cut holes in the disk – use a Ferrero Roché (choc) box to store your disks in it will hold about 35+ disks in each box, very useful if your short on readies.

Ian Hurst, Wigan, Lancs

AND WHILE YOU'RE about it, half a squeezy bottle makes a great pencil holder and sticky back plastic makes shaving a totally new experience ...

TIP! Tip terror

I read with horror the suggestion in your Tech Tips section, issue 130 (TIP! Don't do this).

As a technical team leader in photocopiers, I have seen the results of similar activity on copiers, with which laser printers share some processes, and believe me, at the least they are expensive, at the worst they are positively dangerous.

Inside a laser printer there are high voltages, high static charges, and pressure (and/or heat) fixing processes. Toner can vary in size of particles, temperature setting and polarity of charges.

As for "throwing more money out of the window", does Mr Morley realise that the toner he is stealing costs his firm on average about £30 or more a bottle?

Besides the fact that the letter advocated pilfering, the repair bill for the laser printer is likely to be around £200, plus actual danger to life and limb from electric shock.

As people grow more accustomed to technology, they seem to be more careless with it. We must remember that the boxes which do all these wonderful things for us all have the potential to bite the hand of the unwary.

L J Maxwell, Birmingham

NOW THAT you've added your 'expert evidence' to the debate maybe the prat element will stop stealing from their employers in a bid to damage their expensive laser printers ...

HELP Amiga advice

I have recently bought an Amiga 500 and would like you to answer some questions. First of all could you give me some ideas of what I could use my Amiga for besides games? Second, I would like to know if there is a reasonably priced, but efficient PC emulator for the Amiga.

N Broghan, Co. Dublin

BESIDES GAMES you could use it for art and design, desktop publishing, MIDI music, word processing, video and sound digitising, video titling, and much more. The strong areas of the Amiga are its sound and display abilities although it is capable of most things.

The two emulators that spring to mind are the KCS Power PC board and the Vortex ATonce. The Power PC board is easier to fit, but the ATonce can emulate VGA display resolution (mono).

The KCS Power PC board is from Bitcon (081-490 1919) and the ATonce comes from Silica Shop (081-309 1111).

HELP 128 software

Just recently I acquired a Commodore 1288. I have bought several games for the 64 mode on this computer, but have drawn a blank at getting software for the 128. I would be grateful for any information you can give me on where to buy software for the 128.

Paul Hennen, Northolt, Middx

I'M AFRAID that the simple answer is that Commodore 128 software is extremely rare. Not many people bought the Commodore 128 (we may have the Amiga to thank for that) and there was never much demand for it. Your best bet is to visit as many computer shops as you pass in the hope that they may be as grateful to get rid of the C128 software as you are to receive it. Then join ICPUG, the Independent Commodore Users brigade and I'm sure that if anything's available, they'll have it. ICPUG has an entry in the *Express* user groups list elsewhere in the magazine.

HELP Green envy

My son and I have recently bought an Amiga computer with a 1Mb upgrade plus 1084s monitor and a panasonic KX-1124 printer, we have also been given a green mono monitor which I hope to use with a word processing package.

Here is the first problem – the composite phono socket is incompatible with the 9-pin plug on the monitor, I note there are only six pins in use.

Problem number two is that we do not know what type of monitor it is as there is no technical data on the back, any help or information would be greatly appreciated.

I R Drinkwater, Anerly, London

TAKE THE MONITOR to a competent TV engineer and ask him to check which pins are ground and signal/luminance. The mono composite output on the Amiga should be connected so that the core of the Amiga phono connector goes to signal and the shield goes to ground on the monitor.

TIP! Big Mac

I have a colour Mac LC 2-40 and being a mere mortal I cannot yet afford a Stylewriter printer, excellent value though they are.

In order to facilitate printing I decided to investigate the possibility of using my trusty Epson LX-80 as a Mac output device. Being pretty clued up on the Mac, I realised I would have to overcome a couple of problems; namely: there is no Epson driver as standard with the system and my Epson has a parallel interface to which, unfortunately, the Mac does not subscribe.

Enter the Witch. More precisely enter Point Technologies Witch printer driver. This wonderful piece of software provides support for Epson 9 and 24-pin printers and in addition HP Laserjets on any Mac including those running on System 7.

Q J and L North, Newhaven

AND THAT'S A TIP worthy of passing on to the rest of our Mac using readers although there's already a solution of sorts available from Mac Solutions which sells a dot matrix printer that will run on either a PC or a Mac. Mac Solutions is on 0535 690001. ■

HELP Cubs honour

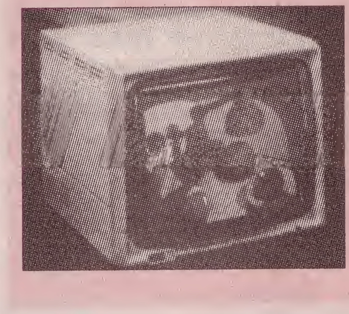
I have recently bought (through *Shopping Express*) a second-hand colour monitor for my Atari STFM. The monitor came minus plug, leads or manual. It has a Microvitec 452 cub badge on the front and the Model No is 1431AP/MS4.

The connections on the back are a 5-pin Din socket marked Audio, alongside a 6-pin DIN socket with no markings. Beneath these two sockets is a switch for either TTI or Pal Video 1V 75R and below the switch is what I take to be a PAL Video socket. By trial and error I managed to get a picture by connecting ST pins to the PAL Video socket and sound by connecting ST pin 1 to the Audio socket.

My problem is when I run games everything is OK, but when I run GFA Basic or STOs or ST Writer Elite, in fact anything that uses an all white screen, I get dab distortions at the top and bottom of the screen. If I invert the screen this usually cures the problem, however this remedy is not possible when I want to view a full box on the Desktop.

Can you please tell me if there is any other way of connecting my monitor and ST that will stop me from physically abusing my mouse in frustration.

Chris Agnew Walthamstow



• The Microvitec Cub will work with most computers, but check with the manufacturer about compatibility.

THE PROBLEM sounds like one of levels. To check on the compatibility of the monitor and computer combination you should talk to Microvitec who make the Cub. If you're pouring too much signal in, you could be doing damage to both the ST and the monitor. Microvitec is on 0274 390011.

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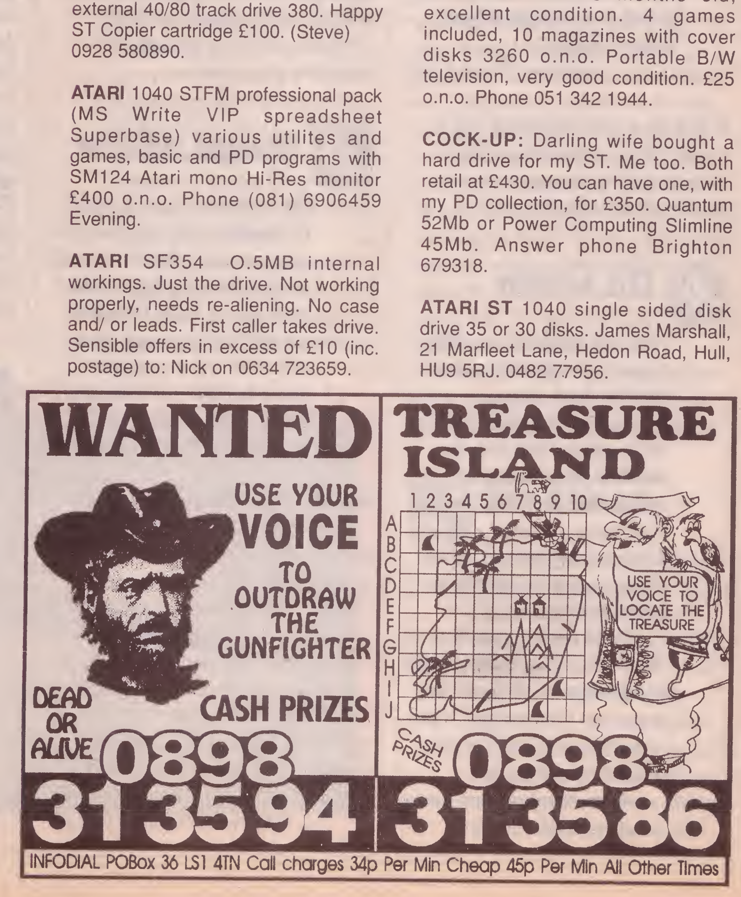
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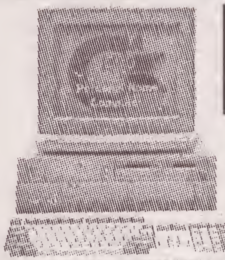

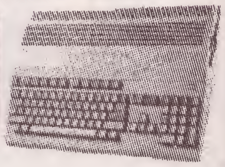

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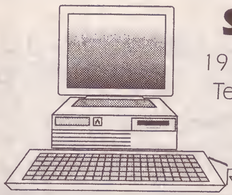

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BEAT the christmas rush! 3 computers for £100. Acorn Electric (PSU + manual) and RML48OZ. All working computers. Will split. Ring Andy Roberts. 0242 231824.

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BBC orignal games including Citadel, Eagle Empire Blagger plus six others, £15. The lot also Amiga originals unboxed. 30 pool Total Recall. Send SAE to M. Jacques, 8 Paisley House, Kershaw Street, Bradford for list.

WANTED: pot noodle, pot rice etc. Foil lids, required by collector. I will refund postage, lus 2 pence for each lid if ten or more sent to: Mr B. Cowdall, 27 Pheasant Way, Cirencester, Glos, Glos, GL7 1BJ.

HELP, I need a manual for an epson FX-800 printer or some info on how to configure it to my Amiga. Also looking for a sheet feeder for above, call Mark on 0703 701943, after 6pm.

PSION organiser XP and mamual with (part used, needs reformatting) 32K datapack fitted £85. Book' Using And Programming The Psion. £5. Tel: 021 351 5556.

ATARI Lynx, PSU, comlynx, california games, gauntlet. Cost over £160. Will swap for megadrive, PC Engine and games. Must be PAL1, or will sell Lynx (ZWKS old) £140. Tel 0789 764039 evenings and weekends.

WANTED techincal manual for Amstrad PPC range of portable computers. Call (0223) 467532 (Cambridge).

SWAP Atari 800XL 1050 disk drive, data corder, joystciks, tons of disks, hundreds of classic games, utilities, PD etc. Loadsa Atari agazines, for best CD midi system. Call Andy on (081) 992 6203.

MULTIFACE wanted for Spectrum +3 and any utilities, PD, software. Also +3 contacts. Write to J. Mooney, 82 Tiree Drive, Ravenswood, Ciukmberlnauld, G67 INX.

URGENTLY wanted: 31/2" floppy drive type FD235F (Teac). Will pay £30 or swap Teac high density drive (suit PC-AT). Also wanted: any Kawai K1 software for Amiga. Phone David on (024 06) 3679 (7pm-10pm please).

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HEEP wanted with colour Genie. I need manual and any books, information bits, magazines etc. Novice just starting. Dave 0952 585294.

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G882	Megaball (Arkanoid type game)	M866	Alcatraz More Than Music
G900	L.C Spectrum Emulator 1	D777	Phenomena Enigma Demo
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MEGADRIVE games for sale. Ringside Angel £25. Alex Kidd, Palmers Golf and Altered Beast, all 3 for £20. Also, arcade stick wanted, pay £20. Phone Paul on (0462) 683066.

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SEGA games, Rstan, Lord Of The Sword, Alex Kidd and Lost Stars, £14 each, £38 the lot. Phone 0908 583318 after 6pm, ask for Tarquin.

AMIGA IBM PC and BBC games for sale, low prices asked. Send SAE for list to M Jacques, 8 Paisley House, Kershaw Street, Laisteroyke, Bradford.

BBC AMX mouse and manual £20, BBC Business software, Accounts, Sales ledger and invoicing £10 each. All three £20. Free database. Telephone after 5pm. Wigan 496039.

WANTED: manual for Music X. Will pay or give some software in exchange. 041 332 0021

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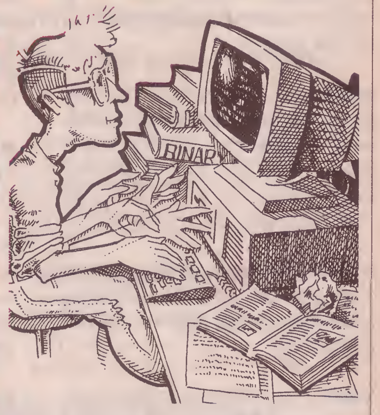

Writing a program? Don't write one more line until you've read how to make efficient programs that will run faster and use less memory. Mary Branscombe shows you how to optimise codes...

There aren't many programmers who don't succumb to the temptation to spend time on a working program, getting it to run that little bit faster or to take up just a little less room on disk. It's not so much that we can't leave well alone, but that programmers do take pride in their code and always think it can be improved.

The law of diminishing returns applies to programming as much as to anything else you do and it is certainly possible to over-optimise a program.

- Never rewrite a program for speed to the point where it becomes unintelligible.
- Don't spend too long on shaving your code down.

Think about how many people would have to use your program for how long to make up for the time that you've spent fiddling with it.

Unless your program is too large to fit on a disk, then there's probably no need to make it shorter. The comments that you'll need to explain terse code will more than make up for the lines of code that you've cut! Well written programs should run efficiently and be easy to understand. You don't have to sacrifice either clarity or efficiency.

FACING THE FACTS

You can't change the data that your program has to deal with, so make sure you deal with it in the best way you can. If you need to store and access a lot of information, use data structures that you can search efficiently.

Test the data that your code will work on for errors before a routine uses 25 iterations of a loop to process it, not after. Some simple error checking can save a lot of time here. Think about the range of data that a routine can work with and reject values that can't be correct as soon as possible.

Often, there will be one way of processing most of the possible values and another way for some special cases. If there are a lot of exceptions and and the tests take up time, test for the general case first. If you have to test each value for five exceptions and only one case in 100 is an exception, then your program is doing a lot of unnecessary work.

WRITING THE PERFECT PROGRAM

- If a program is running rather slowly and you don't know which part of the program is causing the problem, step through it with a debugger. Executing a program in short steps should be very fast so if you have to wait for a particular section of code to return a value, you've probably found the culprit
- If you are searching or sorting, make sure you use the most suitable algorithm – we'll be looking at these techniques soon.
- Compiled languages are faster than interpreted ones and compilers are available for most interpreted languages from Lisp and Prolog to BASIC.
- In some languages, for example Lisp, you don't have to declare the type of objects. If you don't tell the compiler what type of data it is looking at, it will spend time trying to find out.

❖ If you have declared the type of a value, then the program can refuse values of the wrong type rather than wasting time tying to process them.

- Don't declare more variables than you need. If you only use a variable in one section of the program, declare it as a local variable, if the language you are using can do that. Then the program doesn't have to keep track of the variables you aren't using any more.
- Some languages can clear up after themselves with local variables and some will clear all unneeded objects out of memory. This is called garbage collection. In GW-Basic, for example, there are several ways to regain memory.
  - `Z = FRE(0)` triggers garbage collection.
  - I `ERASE X,Y` recovers the memory allocated to the arrays `X` and `Y`
  - `CLEAR` recovers all the memory that has been allocated to storing data but does not affect the program code.
  - `NEW` clears all the memory used for program data or code.

Programs organised into smaller modules will usually be more efficient.

- Library routines are useful, convenient and often well written, but some routines are more efficient than others. In the ANSI C library, there are two routines for printing to the screen, `putf` and `printf`. Because `printf` refers to floating point code, it will make your code larger than if you use `putf` – although this only matters if space is very tight.
- The operating system normally controls things like the screen and the printer, accepting instructions from your program. If you know what you are doing then you can speed things up by bypassing the operating system - but be careful.
- Many games programmers rewrite the routines that drive the keyboard on the Amiga or PC. Increasing the size of the keyboard buffer lets users type ahead of the program, so that the next command can be entered before the first command has finished - very useful for blasting alien hordes.
- Some language implementations have routines in their libraries that may improve on those defined in the language standard. Zortech C has a library of functions called disp that handle screen display much faster than the functions in the ANSI library - but this makes your code less portable.

Speaking a different language.

- You can write a program in one language to get it working and then rewrite it in another for speed and efficiency, or simply because checking and debugging is more difficult in machine code than in BASIC.
- If you switch to a different language to finish a program, whatever the reason, treat any completed program as a prototype. Don't try to simply convert from one language to another – you will have to rewrite things so that they work properly. Otherwise, you lose all the advantages of the new language. It's like using German words in an English sentence – anyone listening will have to work very hard to understand and that isn't efficient. ■

START AS YOU MEAN TO GO ON

If the algorithm that your program is based on is not really suited to the job your program is intended to perform, then even the best written code won't be efficient. As one reader pointed out, recursion is not a very efficient technique for calculating factorials.

Equally, the best algorithm won't be efficient if you don't implement it properly. Ten minutes with a pen and some paper before you start can save you ten hours debugging the program.

TAKE A CLOSE LOOK AT LOOPING THE LOOPS

Look carefully at any section of code that is called more than once. Any code inside a loop or in a frequently-used procedure will run again and again, so if it is inefficient the program will be slowed down again and again.

- Don't put any calculations inside a loop if you can call the result up from somewhere else.
- Don't create more variables than you actually need. If you need a temporary variable to enable you to store part of one calculation, you may be able to reuse it for another calculation.
- Create any temporary variables once, outside the loop and reuse them.

The EVENT HORIZON

Who's doing what, with what, with whom, how, why and where...

THE PLACES TO BE . . .

Virtual Reality '91 **5-6 June**
At the Conference Forum, London. Info: 071-931 9985.

EEMA **11-12 June**
The European Electronic Messaging Forum at the Sheraton Copenhagen Hotel, Denmark. Info: 0386 793 028.

Portable Computing '91 **18-19 June**
At Kensington Town Hall Exhibition Centre, London. Info: 0256 83583.

MANIFEST **20 June**
MANIFEST, or MANufacturing Initiative For Expert System Technology, is a newly formed club which aims to encourage the cost effective application of expert systems in the manufacturing industry. Membership will cost approximately £500. For this, members can keep up to date through lectures, demonstrations and site visits. They will also have access to a database of UK expert systems applications. Meetings will take place every quarter, with the first at SD-Scicon, Milton Keynes. Info: 0276 686200.

Multimedia '91 **25-27 June**
At the Olympia, London. Info: 081-868 4466.

OIS IMC '91 **2-4 July**
The document image processing conference at the Wembley Conference and Exhibition Centre, London. Info: 071-931 9985.

PC World Forum **9-14 July**
In Moscow. Info from Terence Coe on 010 1 508 820 8122.

International Music Show **10-14 July**
Featuring all manner of musical equipment, from traditional to the latest high-tech instruments, the show is a perfect opportunity for musos to keep up with what's going down, man.

There will be a serious profusion of software, MIDI gear and recording equipment.

The first two days are trade only. From the 10th onwards the public will be admitted. The show will be held at Olympia, London. The entry fee is £6, or £3.50 for under 14s. Info: 071-7307852.

The International 16-Bit Computer Show **12 July**
At the Novotel Hotel, Hammersmith, London. Info on: 0726 68020.

Computer Animation Competition and Exhibition **21-28 August**
At the Amiga Centre Scotland. Info: 031-557 4242.

Leeds Computer Extravaganza **13-15 Sept**
At the New Exhibition Centre at Leeds University. Info: 0532 677 657.

Business Communications Awards **10 October**
At the Savoy Hotel, London. Info: 0800 800 847.

Image Processing '91 **29-31 Oct**
At the Birmingham NEC. Info: 081-868 9933.

Computer Graphics '91 **5-7 Nov**
At the Alexandra Place in London. Info: 081-868 9933.

Desktop Cad '91 **5-7 Nov**
As above. ■

The Insider ...

A brief but regular look at the news and views of an industry which is desperate to be loved and then respected in the morning

The Insider has had a hell of week. The computer world is a-buzz with rumours of who will and who will not be attending the European Computer Entertainments Show at Earl's Court or Kensington Olympia or wherever the hell it is. Sackings have been taking place, software houses have been trying not to declare product launches, life goes on as usual in an industry which makes the Ballet Rambert look calm, collected and not at all precious at all.

If you have any tid-bits which you feel should be aired in the public domain, don't write to Frank O'Connor on pages 46 and 47, write to The Insider at 30 Monmouth Street, Bath, Avon BA1 2BW.

SUB-STANDARD

Newsagents trade rag (*surely that should be mag? –Sub*) *CTN* seems to think that following a court case which centred on the word 'Shopper', Dennis Publishing and Future Publishing are now firm friends.CTN reported a 'new Future monthly for computer buyers'. The only problem with the story is that Future isn't publishing the mag - Dennis is. The story went on: 'Future Publishing is launching a monthly computer magazine ... ' and continued '... on-going advertisments (will be run) in all Dennis publications'. Whoopses all around.

COMDEX TOO FAST TOO FAST!

Tenners will be given for firm information on the name of the hardware manufactuer's PR man who got so drunk at Comdex that he not only attempted to interface with a hotel concierge but polished the whole thing off by re-evaluating his supper all over the unfortunate staff member.

SHADES OF WATERGATE

The front runner as the next head of the CIA - a seat vacated by such dignitaries as William - Ollie North Who? -Casey, and George - Dan Ahhhhhgh - Bush is called William Webster Gates. Any relation to a certain Bill Gates of Microsoft????????

AMSTAR-MIGA SHOCK

It appears from sauces (???) close to Amstrad Towers in glorious downtown Brentwood, that all the 'Straddies use Amigas because CBM's machine is thought to be better than anything .... er else ????

A NEW TWIST ON AN OLD JOKE

Overheard at a recent Virtual Reality Seminar:

Q: How many VR programmers does it take to change a lightbulb?

A: Into what exactly?

Golden Moments

A look back into the history of computing with *Express*. If it happened we reported it first.

ONE YEAR AGO

● Commodore's CDTV was launched at the Consumer Electronics Show in Chicago. CDTV, standing for Commodore Dynamic Total Vision, looks like a video cassette recorder and is operated by a hand held infra-red remote control unit. It enables users to access textual, graphical and musical information with a minimum of fuss, and allows a degree of interaction users can focus on particular areas of a subject that they are interested in and determine the order in which information is presented to them.

When launched, the system promised games significantly more sophisticated in depth of play, sound and graphics than on any currently available video game or personal computer format'. Since CDTV is based around an Amiga 500, this was a bold claim - dedicated arcade machines already surpass the Amiga in graphics and sound. As far as depth of gameplay is concerned, we have yet to see anything written specifically for CDTV.

At the launch, Commodore talked of 20,000 units being on sale in this country before Christmas, with 200 titles available. In fact, CDTV's launch was only a month ago, and the software catalogue seems somewhat thinner than anticipated.

TWO YEARS AGO

● Network naughtiness by Robert Morris, a student at Cornell University, resulted in his suspension. Morris, 23, wrote a program which clogged up 6000 computers in universities, corporations and military installations.

● Atari's handheld games machine was launched at the Consumer Electronics Show. Originally called the Portable Colour Entertainment System, it has more recently been renamed the Lynx. Developed by the Commodore Amiga people, it was the first handheld gaming system to give a colour display and four channel stereo sound.

EXPRESS ON-LINE

The *Express* guide to computing at the grass roots level this week featuring User Groups from P to Z.

EXPRESS IS NOW ON-LINE.!!!!
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NEW ARRIVALS ON-LINE

BULLETIN BOARDS

CHICHESTER BBS – Look out for us soon. 2400bps, all SIGS, PD downloads, on-line games, electronic magazine, s/w, hardware reviews, a series on UNIX, atest world news in computing. Chichester can only get bigger.

FOLKESTONE BBS – is an Atari ST based board that needs more callers. Call 0303 45203 between 10pm and 6.30am. V21/V23/V22/bis. Other users welcome.

RANDOM ACCESS BBS – 24 hours, V21/V22/V22bis/9600, HST, V32 PC, Amiga, ST, file areas, game solutions etc. Fidonet, echomail areas. Updated daily. Everyone welcome. 0282 817379.

QUANTUM – Supports Amiga and Atari ST. V21/V22V22bis. MNP2-5. 24 hours. Call 021 707 0681.

SUPERBASE USER GROUP BBS – Supporting Superbase 2&4, Windows and Superbase Professional. On-line 24 hours. 300-14.4K. HST & V32. 081 339 0096.

SPUD'S XANADU – Free access to usenet news and UUCP network. Many megs of free ST downloads. On-line multiuser games, all controlled by Spuddy. Call 0203 686819.

GOSH BBS – 0257 267186 10pm to 8am V21/V22/V23. Fidonet mode 2:250/126. Caters for all Sinclair computers and also some support for Amiga. The Northwest's only QL run Fido BBS. Z88 support coming soon.

MY LITTLE PHONEY – New number 0793 849044. Dedicated to Atari ST and Amiga. UK host for International Atari Distribution File Network (ADN). All Fidonet and NeST message echoes of interest to ST and Amiga users are on-line. Direct international links. Free Net Mail. Speeds V21/V22/V22bis/V32 /HST. 24 hours, seven days a week.

PD LIBRARIES

MG SOFTWARE – Atari ST public domain, only 65p and £1. Send SAE for free catalogue to: MG Software, Cornerways, Beckingham Street, Tolleshunt Major, Essex CM9 8LL.

IBM SHAREWARE CLUB – Send blank disk for full list and details to 23 Houldsworth Rise, Arnold, Nottingham, NG5 8HZ.

JENNIX PD – Forget the rest, we are the best. Over 400 ST/E titles (and growing every day). Send 50p (Cheques payable to NS KLee) to: Jennix PD, 66 Abbey Road, Strood, Kent ME2 3QB.

PC SHAREWARE – At sensible prices. 50p to £1.50 per disk. Send disk with SAE to Rosie, 63 Springboig Road, Glasgow G32 0DB

BROADSWORD SOFTWARE – Atari ST PD. Send Blank disk or £1 for catalogue with SAE to Broadsword Software, Flat 4, Moreton Court, 212 Dover Road, Walmer, Deal, Kent CT14 7NB.

SWPD – PD software from 70p. Send SAE for free catalogue. Atari ST only. SWPD, 50 Coombe Lane, Torquay, Devon TQ2 8EA.

THE SURREY PD CLUB – Atari ST PD for only £1 per disk. Send an SAE to the Surrey PD Club, 25 Windmill Way, Reigate, Surrey RH2 0JB.

ELITE – Join the Elite. Become the Elite. PD Club with a difference. No fees at all. SAE brings details if you write to 8 Willow Way, Chemsey Wood, Birmingham B37.

NIGHSHIFT PD LIBRARY – Clip Art, demos, exclusive samples, utilities, Atari ST. Send SAE and 50p for catalogue to Nightshift, 8 Bertelin Road, Beaconside, Stafford ST16 3JJ.

ANGLO AMERICAN SHAREWARE – PC shareware/PD £1 per disk. Over 2000Mb of top anglo-american titles. Send two first class stamps for menu driven catalogue disk to 37 Devon Place, Newport, Gwent.

FUTURE SOFT PD – For the Amiga. Send disk or 99p for catalogue with a few utilities included. 122 Fairmont Road, Grimsby, ON32 8DX. Tel 0472 250524.

PROPHECY PDL – Atari ST Public Domain. Send SAE and disk or a cheque for £4.50 to Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey, CRS 1EF. We have very competitive prices.

8-BIT PUBLIC DOMAIN – Spectrum, BBC, Amstrad CPC and ZX81 public domain software. Send stamp and 10p for list. Public Domain, 1 Northolme Close, Grays, Essex, RM16 2NX.

BALLY PD SERVICES – Amstrad CPC PD software bought and sold. Colour printing and blank disks available. 5 Howarth Avenue, Church Accrington, Lancs, BB5 4AF.

PERSPECTIVE PD – Free Amiga PD! Don't believe us? Try! Send 25p for a printed catalogue or 60p for disk catalogue. 6 Clover Close, Cumnor Hill, Oxford OX2 9JH.

SHAREWARE KING – 3,000 items of Shareware for PC, plus support, membership, plus discounts. SAE and blank disk for details to C Smith, 10 Penwood Close, Westbury, Wilts, BA13 3LW. Tel 0373 865263.

SHIELDSOFT PD – For the Amiga. Only 75p per disk. SAE for details to 13 Churton Road, Rhyl, Clwyd LL18 3NB. Three month update. Personal service. Helpline for BASIC programmers.

FANZINES

THE DISK – Issue three for Amiga users. Including Rattlecopy, PPanim, Noclicks3.6, Ski game and lots more, Free draw – win 400 utilities. Send £1 to Steven Lord, 6Stubbing Brink, Hebden Bridge, W Yorks.

ATARI LYNX CONSOLE USER – The brand new magazine dedicated to the Atari Lynx. 30p plus SAE to Lynx User, 11 Montgomery Drive, Spencer's Wood, Reading, Berks.

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USER GROUPS P TO W

PRESTEL - Andy Leeder, ClubSpot 810, Church Farm, Stratton St Michael, Norwich, Norfolk, NRQ15 2QB

PSION ORGANISER - Mike O'Regan, IPSO, 130 Stapleford Ln, Beeston, Nottingham NG9 6GB. Tel 0602 735482

PUBLIC ADVERTISING LIBRARY – For Speccy owners. Two free C90 tapes when you join, as long as you send an adventure game original. We have some adventures available but we want more. For more info send an SAE now. to Alec Carswell (PAL), 16 Montgommery Avenue, Beith, Ayrshire, Scotland, KA15 1EL

PUC'S ATARI PORTFOLIO USER GROUP – New user group for the Portfolio pocket PC/organiser. Offers: newsletters, technical assistance, Talkback feature, software/hardware updates and hot news. Tel 0635 73662.

QUANTA, QL AND THOR USER GROUP – The Corner House, Loxley, Warwick, CV35 9JT. Tel: 0789 842543

RESEARCH MACHINES - Steve Rochford RM National User Group, George Stephenson High School, Southgate, Killingworth, Newcastle NE12 0SA. Tel 091-268 2002

REVELATION (PICK) — write to Malcolm Frame, UK Revelation User Group, 136 Saint Albans Road, Watford WD2 4AE or Telephone 0923 35515

R:BASE – write to Mrs Tansy Beal, R:Base User Group c/o Room A2044 BBC Woodlands, 80 Woods Lane, London W12 0TT. Telephone 081-576 7187

SA40 User group – write to Roy Williams, 17 Grove Road, Acton, London W5 6AW.

SANYO MBC-550 - M H Syed, Wistaria, 53 Acacia Grove, New Malden, Surrey KT3 3BP. Tel 081-942 9009

SCHNEIDER EURO PC - Alex Kefford, SEPUG, 11 Crabbet Road, Three Bridges, Crawley, West Susex RH10 1NF

SCIENTIFIC PC USERS – write to Tim Bunning, SPCUG PO BOX 17, Retford, Notts DN22 6BQ Tel 0777 709009

SEGA SWAP CLUB – Exchange your old megadrive games with other members. For details send SAE to SSC, 10 Sandwith Road, Todwill, Sheffield, S31 0JP

SERIOUS GAMER – Flat C, 43 Colvestone Crescent, London E8 2LG. Telephone 071 241 5446.

SERVICES USERS - write to Squadron Leader G Howson, Services Personal Computer Association, Stlk Eng 15a HQSTC RAF High Wycombe, Buckinghamshire

SHAREWARE SWAPSHOP – 400 plus PC shareware disks available free. Semnd Blank disk (3.5 or 5.25) and return postage for a copy of our catalogue to The SSS, 69 Tillingbourne Green, St Mary Cray, Oropington, Kent, BR5 2EX

SHARP USERS CLUB – contact Andrew Ferguson, 11 Harcourt Close, Henley-on-Thames, Oxon RG9 1UZ. Tel 0491 574850.

SHREWSBURY AMIGA USER GROUP – 1 Haughmond Court, Featherbed Lane, Harlescott, Shrewsbury, SY1 4NJ. Please enclose an SAE

SIRIUS – Simon Sheppard, ISSUE PO BOX 222, Brighton BN1 3BR

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SOFTWARE EXCHANGE – send an SAE for info to 13 Bourneville Lane, Birmingham, B30 2JY or phone 0860 444594 from12pm to 10pm

SOFTWARE EXCHANGE SERVICE – buy/sell/swap Amiga, ST and PC. SAE for info to 13 Bournville Lane, Birmingham B30 2JY or call 0860 444594.

SOLITUDE MOUNTAIN – Friendly new Amiga user group. Send blank disk or 50p to 565 Heathway, Dagenham, Essex

SORD M-23 – B Nicholson, Schlumberger Norge A/S Bjergstedveien, 4007 Stavanger, Norway. 474 657002

SMART SYSTEMS USERS – Francis Barton, Basement Holy Rosary church, Louis Street, Chapeltown, Leeds LS7 4BP. Tel 0532 629202

SOFTWARE EXCHANGE SERVICE – Send SAE to 13 Bourneville Lane, Birmingham B30 2JY. Tel: 021 459 7576. Buy/swap/sell.

SOUTH 16 AMIGA USER GROUP – the UK's number one Amiga user group. For more information send SAE to South 16, PO box 16, Southampton, S09 7AU. Now!

SOUTHERN AND DISTRICT. PC and ST user group.Tony Lowes 61A Broadway West, Leigh on Sea, Essex S59 2BX

SPANDEFANG SOFTWARE – 68000 AC Coders magazine. Send £2 for sample to 4 Cambridge Terrace, Harrogate, North Yorshire, MG1 1PN. Atari, ST, IBM PC. 3.5 inch disk included in price.

SPECTRUM PLUS 3 USER GROUP – monthly magazine. 57 Lovers Walk, Dunstable, Bedfordshire, LU5 4BG

SPECTRUM DISCOVERY CLUB – magazine on disk for the Opus Discovery Disk Drive and the Sam Coupé. BD Mumford, 57 St Saviours Road, West Croydon, Surrey, CRO 2XE

ST USER GROUP – Send an SAE for a news letter to ST User Group, Ben Dobson, 1 Ryedale Way, Selby, North Yorkshire YUO8 9PB.

STEN – the ST enthusiasts newsletter issue three now ready. Send a disk and SAE for your copy now. Postal Trivia League starting. Interested? Write to 14 School Road, Morningside, Newmains.

STOS magazine, out every month. Send an SAE for full details to 11 Shore Crescent, Bishops, Waltham, Hants SO3 1DZ

STOURBRIDGE ATARI USERS' GROUP – for 8-bit Atari computers.Send SAE to LK Taylor, 99 Bredon Road, Stourbridge, West Midlands, DY8 4LA. Telephone 0384 379575

STUPID FLOWER PD – new library for ST users. Send an SAE for a free catalogue to SFPD, 3 Read Mead, Glastonbury, Somerset Ba6 8ON or call 0458 35027 and ask for Matt.

SUPERPROJECT - Geoff Groom, 3 Sunnymeade Ave, Carshalton Beeches, Surrey, SM5 4JA.. Tel 081-643 3336

SYNCROSOFT – Exclusive 64 computer information. £2.95 to join, including p&p. Make cheques to Syncrosoft and send them to 9-10 Morland Gdns, Southall, Middx UB1 3DY

SYRACUSE ARCHIMEDES DISK MAGAZINE – out now only £4.99. Includes the magazine disk plus two disks of public domain software. Send to Aste Wythenee House, 10 Alastair Crescent, Prenton, Wirral, L43 0UR.

TAS (DATABASE) - Neil Hegarty, TASUG C/O Solutions for You, 1st Floor, 2 Lytton Rd, New Barnet, Hertsm EN5 5BY. Tel 081-441 1133, BBS 081-449 4171

TCS PD – over 250 disks. Only 99p. Send SAE to 40 Upton Gardens, Tarring, West Worthing, Sussex.

TANDY/MS-DOS - Roger Storrs, NATGUG Oakfield Ldge, Ram Hill, Coalpit Heath, Bristol BS12 2TY. Telephone 0454 772 920

TELECOMMS USERS GROUP – Interested in forming a Business Users Telecomms Club? If so then contact John Lever, Systems Services, Little Thatches, Rushden, Nr Buntingford, Herts, SG9 0SH. Tel 076 388393

TEXAS T199/4a - Peter Brooks, International TI User Group 96 Banbury road, Oxford OX2 6JT. Telephone 0865 510822.

THUNDERNEWS – CBM 64 user magazine on disk/tape. Send sae for details and competition to 159 Hough Road, Wallsall, West Midlands WS2 9BG

TIUGUK – TI99/4A user group UK for S/W on disk, tape and module. Offers magazine and help. Write with SAE for more details to Peter Walker, 24 Bacons Drive, Cuffley, Potters Bar, Herts EN6

TRANSPUTER - Howard Oakley, Transputer User Group, Brooklands Lodge, Park View Close, Wroxall, Ventnor, Isle of Wight

TURBO – SAM Coupé user group. Six newsletters and six magazines each year plus a big PD library. £10 for a year. SAE for Information to TURBO, 8 Healet, Lakeside, Tamworth, Staffs, B77 2RF. Established January 1990.

TYPECAST PDL – Atari ST/STE PD. Solely for DTP, WP, Art, clip art, no games. Send disk and SAE for disk catalogue to 31 Hartfield Crescent, West Wickham, Kent.

UNIX USERS – UKUUG Secretariat Owles Hall, Buntingford, Herts, SG9 9PL. Tel 0763 73039 /73255 (fax)

VENTURA PUBLISHING - VPU (Ventura Publisher User group) Linda Liddell VPU c/o LLA Lound House, Forncett St Mary, Norfolk, NR16 1JP. Tel 0508 41580

WAKEFILED AND DISTRICT AMIGA USERS – interested in forming a local Amiga users' group? Contact Eddy on 0924 361101.

WHITE HEAD PDL – Atari ST PD from £1.40 per disk. Send two second class stamps for latest list to Hakan Akbas, White Head PDL, 15 Cavendish Mansions, Clapton Square, London

WORDPERFECT – Michael Norman, Wordperfect User Group (UK) Dove Barn, Manor Farm, Wootton Woodstock, Oxon, OX7 1DX. Tel 0993 812 670

WORDPERFECT – Dr Ian Barton, A Perfect World, High Rigg, Alma Rd, Tideswell, Derbys SK17 8LS. Tel 0298 871 925

NEXT WEEK BULLETIN BOARDS

SPOTLIGHT ON
ASPECTS BBS

Express On-line moves into Dave Gorski's Aspects Bulletin Board this week to give on-line readers a place to leave messages where they do not have to pay a subscription or horrendous on-line charges.

We picked Aspects, which is based in Salford, because it is a well established bulletin board, is run efficiently and has access to a network of other boards with which it exchanges messages on a daily basis.

Aspects runs on a pair of PCs and the sysop, Dave, is prepared to chat to any user about setting up areas of special interest.

If you already have a modem and want to join the new *Express* conference, dial into Aspects on 061-792 0260 (V21,22,23,22bis 8N1).

DAFTEST AD OF THE WEEK

We receive some pretty weird ads from time to time here at *Shopping Express*. So here is the first in a series of genuine cookie classifieds:

COMPUTER literate daughter of six. Swap for 40Mb hard disk. (She hogs my ST). Good condition, very lively, good talker. Self starter. Write to (Name and address witheld in the name of decency and legality etc ...)

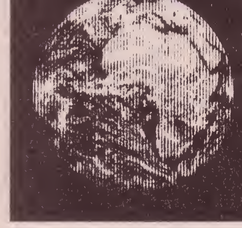
SHOPPING EXPRESS BUYERS' GUIDE

While *Shopping Express* is undoubtedly the perfect way to track down the best bargains in the computer world, many people are still wary of buying products via mail order or through personal ads. This is probably because usually you are not able to have a look at what you are purchasing before you hand over your money.

We do everything in our power at this end to make sure that all the advertisements we run are above board. But here are a few tips designed to help take the risk out of buying via mail order or over the telephone.

- Be precise in describing what you want to buy. Leave no room for error. Feel free to go overboard in double checking details – make, model, specifications, colour, size, the page number and name of the magazine in which you saw the advertisement etc.
- Confirm the exact price of the article you are buying. If you are phoning a company check if there are any hidden extras, such as postage and packaging.
- Check how the item will be delivered to you and how long it should take. This is especially important with reader ads where delivery details are rarely mentioned.
- If you are writing off for the product keep copies of all letters. If you are phoning, note down details of when you phoned and who you spoke to.
- If possible enquire about guarantees and servicing. Check the supplier's policy on returns and refunds. With reader ads, it is best to make the effort to see the item personally before you hand over money.
- When possible pay by credit card for items over £100, as this provides extra cover under the credit card companies' own insurance schemes. Otherwise use a crossed cheque or postal order. Avoid sending cash at all costs.

WHOLE WIRED WORLD



Globe trotting computer hack Steve Gold has been sniffing out more of the weird and wonderful from the world of computing. This week Sony gets into CD-ROM, Hayes has called its lawyers, and one of America's, top ST mags takes a dive...

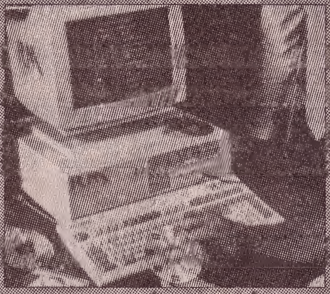
SONY GRABS CD-ROM WITH HOME LASER LIBRARY

While CD-ROM drives cover the face of the earth, actual software is something of a rarity. Now Sony America has announced a "laser library", a series of CD-ROM disks aimed squarely at the home computer user.

Sony plans that the six initial disks in the range will be bundled with its own CD-ROM drives, at least in the US. With software, hardware and mounting blocks for almost any PC, the system costs a reasonable $699.

Included on the disks are a family encyclopaedia, a reference library, information on mammals, a world atlas, nursery rhymes and information on numerous foreign languages.

Sony reckons CD-ROM has great potential in the home, and is planning a big push with its laser library. Essentially, the firm believes that while hundreds of thousands of American families own a PC, very few use their hardware and software as information databases.



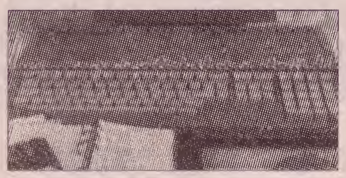
• *CD-ROM: Could be a family affair.*

ST MAG DIPS OUT

After several days of conflicting claims, *Start* magazine, the United States based bi-monthly publication for Atari computer users, has called it a day and announced it will not publish another issue until further notice.

"*Start* has suspended publication pending a sale of the magazine," said editor-in-chief Tom Byron. A sale is said to be in the works with unidentified parties interested, but no timetable is being discussed publicly.

Byron added that the next issue, the June/July edition, is complete. He was waiting to print the mag when news came through that the unfortunate suspension was in effect.



• *Atari ST loses a friend with Start's demise.*

The resolution of the fates of subscribers and the many writers to whom *Start* has owed monies dating back to mid-1990 is not known or predictable at this point.

If the magazine is sold it may be that those owed money will be paid from the resultant income, or the new owner may assume the responsibilities of the company. A third possibility is that there could be a liquidation and sale of assets held by *Start* itself, although cash raised would be negligable.

Start has long been a favourite read for serious users of Atari kit in the US, especially the ST. But over there, Atari's machine is of minority interest.

INFRA-RED PRINTER LINK

Infralink Datatechnik of Neuss in western Germany has announced Infralink, an infra-red system for linking computers to printers. Each receiver is about the size of a trackerball and attaches to PC style parallel ports.

Unlike competing systems, Infralink is transparent as far as computer software is concerned. That means it's as easy to use as a parallel printer cable.

Each $495 unit features eight channels, meaning that up to eight computers can 'drive' a single printer on an Infralink network. Alternatively, a single computer could drive up to eight printers or similar parallel port driven peripheral.

Despite the system's German origins Infralink was actually unveiled at the Comdex show in Atlanta a few weeks ago. It uses a new propriety infra-red LED technology that casts a diffuse signal, so eliminating the need for receivers to be aimed at one another.

The range of the signals is about 21 feet if the units aren't pointed at one another, or up to 210 feet if they are. The signals can be bounced off any type of ceiling. You can contact Infralink Datatechnik on 010 49 2101 35053.

IT'S LANTASTIC

Local area networks are all very well, but linking disparate devices, modems, printers and portable PCs can work out to be quite expensive. That's where Artisoft's Lantastic system comes into the picture.

Lantastic links up almost any device into a Novell compatible network, and all for $595.

The heart of the network is a shoebox sized unit that has Ethernet, twin serial and single parallel ports fitted as standard. The PC plugs in via a PC card connector as with any other external peripheral. Contact Artisoft on 0101 602 293 6363.

CD SAMPLES

Mediavision, a small Reemont, Calfornia based company has unveiled its Pro Audiospectrum card system.

The card takes sound samples from a variety of source and plays them back to digital standards.

Unlike competing digital sound systems, Mediavision's system can adjust the sampling rate from 8KHz right through to 44KHz, which reaches CD quality levels. Despite the technological performance, the system prices in at a very reasonable $389. Hidden inside the box is a two voice FM synthesiser, SCSI access port and a one watt per channel amplifier. Contact Mediavision on 0101 415 770 8600.

CAD GOES AMIGA

Ditek International has announced versions of its *Dynacadd* Cad/Cam software for the Amiga and PC. The package was previously only available on the Atari ST.

Since 1988, when the ST version was released, there has been almost no competition for the program. The company developed a version for the PC to allow ST and Amiga users to import files onto the PC environment.

Dynacadd is billed as a general purpose CAD (Computer Aided Design) package and is highly thought of in the ST community. It handles 2D and 3D drawings, yet retails for just $995 - small beer compared to the competition. Call Ditek on 0101 416 479 1990

TAKE A VANTAGE

ATI Technologies of Ontario has released the Vantage card. Unlike the plastic card of the same name from the Trustee Savings Bank (TSB), this Vantage card boosts Windows performance by up to ten times that of other VGA cards.

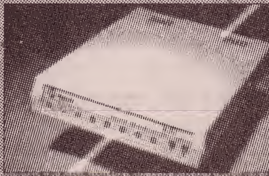
According to the Canadian company, a 286 based PC equipped with the $495 card can outperform a 386 based system on its own. In Super VGA mode the card will support images of 1,026 x 728 pixels in 16 colours, and 800 x 600 pixels in 256 colours. Screen updates are fast, thanks to 72Hz screen refreshes. Contact: ATI Technologies on 0101 416 756 0718. If launched here it would probably cost £299, although, at present, no distribution deals have been finalised.Watch this space. ■

HAYES CHASES MODEM 'CHEATS'

Fresh from its legal victory last January, Hayes has filed a similar set of lawsuits against several more modem manufacturers - Zoom Electronics, Zenith, Cardinal, Ventel and Packard Bell.

As with the infamous lawsuits against a trio of modem manufacturers in January, this latest round of legal actions alleges infringement of the company's US Patent number 4,549, 302. Hayes' original actions against Everex, Omnitel and Ventel alleged that the companies concerned had used the +++ escape sequence without licensing the concept. Hayes left the courtrooms with a resounding victory.

So called 'Hayes compatibility' is a strong selling point for any modem manufacturer, and the eponymous firm takes its patents very seriously indeed. Any rivals attempting to use Hayes' patented technology without paying for a licence can expect to hear from the company's lawyers. Such licence deals are hot all that expensive.



• *Hayes modem: Strict on patents.*

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THE PD COLUMN

Frank O'Connor, our man with nothing to his name but a fist full of five pence pieces, goes in search again for the best in lovely cheap Public Domain software...

Mac owners are probably already aware of *SoundMaster*. This is a small piece of software which you install on your desktop allowing you to play digital samples while you perform various actions on the Mac.

For example, you could have a dawn chorus play on your Mac whenever you switch on. Or you could have our old friend Arnold Schwarzenegger's unmistakeable tones blaring out "I'll be back" when you shut down. The range of samples available is huge, including snippets from popular movies and TV series. *Star Trek* seems to be the most popular source of digitised material, with "He's dead Jim" and "Captain to the bridge" being heartwarming quotes.

The program can be fun giving your Mac the human touch

The program isn't particularly useful, but it can be tremendous fun giving your Mac a bit of a human touch. It's very easy to install, you just put it in your System Folder and the option can be chosen from the control panel.

The office fave is the burp as you eject your disk taken from an American bulletin board with Mac samples from the film *Bill and Ted's Excellent Adventure.*

The program and the accompanying sound files are brought to us by Fantasia Shareware.

IBM SWAGORAMA

IBM PC and compatible owners will no doubt be rather amused to hear that Fantasia also supplies a great deal of software for the PC. This includes lots of worthy educational, business and entertainment titles.

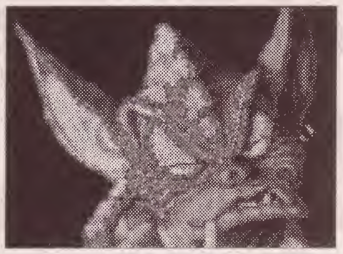
The Wizard games disk contains some neat puzzle games with enough variety for all but the most demanding customer. The most financially astute among you will probably appreciate the pools predictor. This program is one of those dubious get rich quick jobs. All it does is reduce the random element when choosing league teams.

It is by no means a foolproof way of winning the pools but it does give you something to think about when you are waiting for the results on a Saturday afternoon. The boys at Ladbrokes don't seem to be all that concerned anyway.

Fantasia's range of shareware is quite astounding. Look out for some excellent disk utilities and a variety of business software.

AMIGA ARTY PRANKS

Amiga art is looming large on the PD horizon this month. Amiganuts United sent in a disk containing a competition of sorts. The disk contains several pieces of artwork, your job I suppose is to view them and decide which is best.



• Groo: PD is big on Amiga fantasy arts.

The disk called the Imp 666 disk, contains some mediocre as well as gloriously attractive artwork and is certainly worth a look. Some of the pictures are *DeluxePaint* files, while others are beautifully rendered HAM images.

One of the nicest pics is a *Lord of the Rings* style elf. Very cute and full of character. The image seems to have been rendered in freehand, but the range of colours and detail makes it look quite spectacular. Nice to look at, shame there's no music there, though...

Also available on the Amiga from Amiganuts is a rather spiffy *Thrust* type game. Featuring lush graphics and sound, it borrows ideas from lots of other games and combines them to produce a rather impressive shoot-'em-up. Called for no apparent reason *Blue House*, the game has you flying a pointy little spacecraft around a futuristic maze of freakish starship components.

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and ask for Phil or Shaun

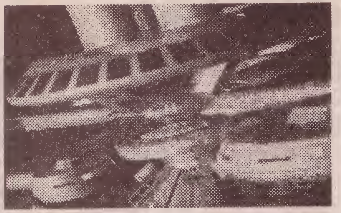
Like *Thrust*, your craft is affected by gravity, rotation and, needless to say, thrust. You spend most of the initial stages of the game getting to grips with the tricky control method.

Compensating for harsh gravitational effects is a lot more difficult than it sounds (actually, it sounds very difficult).

Well presented and beautifully programmed, this addictive little title should keep you frantically banging away well into the wee small hours.

AMIGA MAG BLAG

Without a shadow of a niggling itsy bitsy teeny weeny bit of a doubt, the best Amiga disk magazine you will ever see is *Newsflash* from Newsflash UK. The disk contains some really up–to–date news on a wide range of topics, including Amiga hardware, games and PD.



• Always lots to see and do with Newsflash.

Also included are some corking music and graphics demos. Some of the demos are from the most famous demo houses and the quality shines through. Fair enough, news and demos. You've seen it all before, but in this "magazine" you get the added advantage of free PD software. Well, PD software is free anyway, so I suppose you could say it's a PD disc with a free magazine.

The software includes disk utilities, music handling software and every now and then the odd game. Some of the stuff on the disk is very impressive, but the magazine itself is well written and highly informative. The presentation is excellent and the icon driven desktop environment is simplicity itself to operate, even by the Amiga's standards.

The magazine comes on two very packed disks which gives you some idea of the size of the thing. All the way through, you have the option of background music.

This music is a very nice rendition of an old Genesis track that'll have hippies going all nostalgic. If however, you have a standard A500, the music means that you won't have enough memory for some of the applications on the disk. You can turn it off and everything will run quite happily.

The magazine is already on its 12th issue and has garnered quite a following. You'd be a mug to miss it, unless of course you don't actually have an Amiga, in which case you're onto a definite loser.

Last on this disk is a fun program called *Mugshot*. It runs only on mono machines and is basically an identikit program featuring a series of digitised photo sections. It doesn't have much practical use, and I don't see Scotland Yard subscribing, but it is a laugh. ■

SOME ATARI ST ANIMATIONS FOR BUDDING WALT DISNEYS

If ST art is the thing that gets your pulse racing, then maybe you should check out Disk AG 0036 from Caledonia PDL. This baby contains two really rather special ST packages, both for budding Picassos and Pollacks.

The first, *Jet Paint*, is a standard paint package in the mould of *Degas Elite* or *Neochrome*. It features the usual features like fill and airbrush, but can take advantage of the STE's enhanced colour handling features. It really is very slick and extremely polished and runs rings around *Neochrome* (cue tons of letters from outraged and loyal *Neochrome* owners).

Even better however, is a package called *Sprite Studio*. This is a fairly basic art utility with the added advantage of a really good sprite animation facility. This makes small detailed animations an absolute dream to create. It is very simple to use and even beginners will be churning out animations in no time.

Although an arty slant is always useful, don't worry if drawing a square is beyond your capabilities. It's all very simple. Walt Disney eat your heart out!

WHERE TO GO FOR PD

Amiganuts United can be found loitering with intent to release spiffy Amiga PD at:
Amiganuts United, 169 Dale Valley Road, Hollybrook, Southampton SO1 6QX or Tel. 0703 785680.

If you want to get hold of the Newsflash disk mag, then contact:
Newsflash UK, 25 Fairfield Mt, Ossett, West Yorkshire or Tel. 0924 265593.

The chaps at Fantasia Shareware are very helpful and can be contacted at:
Fantasia Sharware, PO Box 1254, Compton Martin, Bristol or Tel. 0761 221585.

Caledonia PDL supply high quality ST PD and should be contacted at:
250 Oldtown Road, Hiltern, Inverness IV2 4PT or Tel. 0463 225736.

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839:	C-LIGHT. Ray tracing package. A must for the artist!	£2.00
848:	KEFRENS POWERMENU & FONT DESIGNERS. A good utility	£2.50
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FACE THE FAX

QueFax
QueFax

• Quefax is a little too expensive to simply be the ultimate convenience product for people too lazy to walk from their desk to the fax machine. So what else can it do?

As companies increasingly rely on fax machines for their paper-based communications, bottlenecks around the office fax are a common problem. Dave Golder looks at a system which could provide a solution.

As you stand in line for the fax and the bloke three people in front of you tries for the umpteenth time to get the machine to connect with an uncommunicative counterpart somewhere out there, you might begin to fantasise about being able to send a fax without ever leaving the comfort of your office chair.

With the advent of electronic mailing systems this fantasy has become a reality. Systems which make use of computer communications networks allowing faxes to be controlled from your keyboard have been developed. One such system available for the Macintosh is Quefax.

CUT OUT THE MIDDLE MAN

Basically, Quefax cuts out the middle man by sending a fax directly from a user Mac, so there is no messing about obtaining hard copies from the laser printer. However, it can do a lot more besides and really takes the frustration out of faxing, but at a price.

The major advantage of Quefax is that a number of users can all be connected up to the system via an electronic mail network. This allows for faxes to be queued up in a similar way to documents waiting to be printed on a laser printer. If you send a fax from your Mac and the fax machine is already in use, then the information you want to send will be stored in the fax-server (see box below) until the fax is free.

You are notified that your fax has been sent successfully by a message sent back to your Mac from the fax-server via the mail network. Similarly you are told if there have been any problems – such as the fax machine was not able to connect with the receiving machine – so that you can attempt to send it again later.

However, you can also set up Quefax so that it will automatically try to send the fax again if the first attempt has been unsuccessful. This can be immediately after the first attempt or following a predetermined delay time. You can also program Quefax to give up attempting to connect after so many unanswered rings from the destination fax.

Faxes need not be sent immediately either. You can set up a delay so that Quefax will send the information at any time you choose. So, for example, you could set it up to send a document on 3 December 2050 if you really wanted to. A more practical use of the delay function is to send faxes at night, thus taking advantage of cheap rate phone charges.

You can set up a delay so faxes can be sent at night, taking advantage of cheap rate phone charges

Other useful functions are the ability to send out the same fax to a number of addresses at the same time, automatic hard copy printing of outgoing faxes and a comprehensive logging system detailing the time a fax was sent, its length and destination. It is also very easy to set up impressive, professional-looking header pages The output quality is very impressive because the faxes are imaged electronically rather than optically, so the definition of the received fax is greatly increased.

While the system is very complicated to install – though thankfully 4-Sight will do this for you – it's actually very simple to use. You access the 'Send Fax' option you simply press SHIFT, OPTION and 6 and a window appears similar to a print window. From there on the instructions are intuitive and easy to follow and a document will be ready to be sent in less than a minute.

COSTLY CONVENIENCE

The only real drawback with the software is that it has problems with characters which have been rotated; the definition of these characters on the received fax is not very good. However, the company is working to rectify this. Also, if you want to send a fax quickly, the queuing system can be annoying, and even if there is no queue, it can take minutes for the document to make its way around the network system to the fax machine.

The major drawback is the cost – Quefax is a lot more expensive than a normal fax machine. To make it worthwhile you will need to have at least 10 people needing to use the fax constantly, otherwise it would be cheaper to buy them individual faxes. Plus, you will probably find that you have to find an extra Mac to function as the fax server (see below) thus adding to the cost. Also, Quefax will only work with the certain line of fax machines (STT faxes from Sweden) so if you want to upgrade from the rather basic machine supplied with the software you are very limited in your choice.

Impressive, but strictly for companies with serious faxing problems. ■

All Quefax bundles are supplied with an STT 530Q Fax Machine. Prices range from £2,359 for a 10 user licence to £6,679 for a 100 user licence.

For Quefax with Quickmail included prices range from £2,760 to £10,277. Quefax is available from 4-Sight. For further information call 0202 764401.

WHAT YOU'LL NEED TO SET UP YOUR FAX NETWORK

Quefax is an electronic mail-based system which works alongside either Quickmail or Microsoft Mail E-Mail systems. For businesses that do not already have an electronic mail system Quefax can be supplied bundled with Quickmail.

On a multi-user Quefax network one Mac will be the mail server – as with any electronic mail system – while another will run fax-server software; this will be the one that manages the fax machines and stores up the pending outgoing faxes in a queue.

While a Classic, Plus or SE can perform the mail server function, for the volume of faxes which would be necessary to make a Quefax financially viable you will really need a II series machine or an SE/30.

Similarly, the fax-server software – which has to be running constantly – will run in the background under multi-finder, but you will require an SE/30 or a series II Mac to be able to run other applications in the foreground. Even then what you can do on the fax-server machine in terms of other applications is limited by the amount of memory you have.

We ran the software on a IICX with 8Mb with only three or four people using it to send faxes, and the machine was constantly running out of memory. This would seem to suggest that a dedicated machine is preferable.

WORTH QUEUING UP FOR?

FOR

▲ Cuts down on wasted time.

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▲ Can cut costs by sending faxes at cheap rate times.

▲ Extremely high quality output.

AGAINST

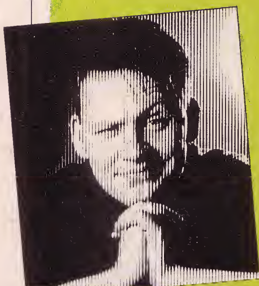
▼ Very expensive – about 20 times more than an average fax machine.

▼ You need one Mac as a dedicated comms server.

▼ It will only work with certain few fax machines.

▼The output quality of rotated text is poor.

BUBBLING UNDER



● OUCH! Prepare to experience *Agony*, a horizontally scrolling blaster from Franck Sauer, Yves Gorlet and Marc Albinet (perhaps better known as the team behind UbiSoft's *Unreal*) with six levels including marshes, forest, sea and highland, in search of cosmic energy. aliens, end of level guardians. Four-layer parallax scroll. flying geezer or change into an owl or become a ghost, each with its own thing, end of this year, price £25.99 on Amiga only.

● OOH! The release of Psygnosis' *Lemmings Data Disk* has been put off until September, at a price still to be confirmed. A series of such disks was planned, but this will actually be the first and last, the reason being author DMA Design is currently putting together a complete *Lemmings Construction Kit* for release this Christmas. *Lemmings II* will now appear early next year.

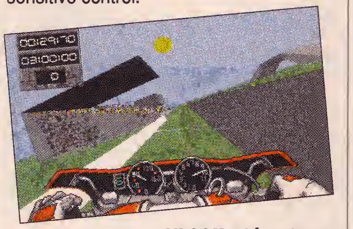
● OOYAH! At last, Psygnosis' sequel to its arcade adventure *Barbarian* (which is not to be confused with Palace's beat 'em up of the same name) is due for release this autumn, five years after the appearance of the original. The blend of arcade adventure and fighting action has been retained in this sequel but enhanced by replacing the over-complicated mouse-based interface with complete joystick control. Designed by its artist, Garvan Corbett, and programmed by Mike Chilton (who has *Stryx* to his credit), *Barbarian II* boasts over 2,000 frames of sprite animation, most of which is concentrated on relating the different moves for the available weapons such as swords, bows (and arrows) and spears. You can do battle through villages,dungeons and castles on the Amiga and Atari ST for the sum of £25.99 each.

● OOH-EEH! Still with Psygnosis, the Liver bird has launched its own budget label, *Sizzlers*. From July the company's back catalogue will slowly but surely appear priced at £9.99 on Amiga and Atari ST. The first batch comprises the arcade adventure cum shoot-'em-up *Stryx*, the Crossfire-inspired *Ballistix*, and DMA's critically acclaimed blaster *Blood Money*.

Games Week

Hubble, bubble, toil and trouble ... that's Gary Penn, with another cute collection of hot news, rave reviews and terrific tips.

Neil Jackson called it "an all-action game, which definitely gets the blood pumping nicely," in Games Week, Express 117. He was, of course, referring to Gremlin Graphics' motorcycle simulation ***Team Suzuki***, which only ever managed to make my blood boil when it came to getting to grips with the sensitive control.



• VROOM with a view to easier riding in the Team Suzuki Trainer Disk.

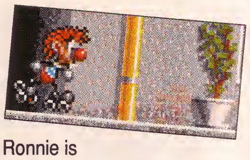
I wasn't alone it seems, for Gremlin has seen fit to lend a hand with the ***Team Suzuki Trainer Disk***. This new cut-down version is slower than the original - at least it is until the benchmark lap time is beaten. The time decreases and the overall speed increases, up to the point where the rider is considered competent enough to move on to the real thing. Does it work? I'm afraid I'm still in training ... The ***Team Suzuki Trainer Disk*** comes free in all recently packaged Amiga and Atari ST ***Team Suzukis***, or are available (free again) direct from Gremlin at Carver House, 2-4 Carver Street, Sheffield S1 4FS.

● ● ● ● ● ● ● ● ● ● ●

One of Psygnosis' imminent releases is a shoot-'em-up entitled ***Amnios***. It's a fight through 10 planets, with humanoids to be rescued, which is nothing new in itself, except these are living planets, each with a brain and a heart and other vital organs. This throws up another interesting innovation ... The aliens created by a planet are affected by the type of organ destroyed. Take out a planet's brain forexample, and the aliens produced won't be so intelligent. ***Amnios*** is released at the end of July on the Amiga only for £25.99.

● ● ● ● ● ● ● ● ● ● ●

• Skate, prattle 'n' roll with Rolling Ronnie.



Rolling Ronnie is an errand boy. But he's not your run-of-the-mill gopher, oh no. He's a cool roller-skating cat who knows where he's at, be it the park, the city streets, an office complex or even a sewer. For these are four of the nine scenes found in StarByte's ***Rolling Ronnie***, to be released this September through Virgin Games Software. It's a variation on the run 'n' jump theme, only here there's cash to be earned by running errands for the odd-ball locals. Rolling Ronnie's coming on the Amiga, Atari ST, IBM PC and compatibles, and the Commodore 64. Prices have yet to be confirmed. ■

TOP 10

SIXTEEN-BIT GAMES

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	1	*Eye of the Beholder*	US Gold	AG
2	3	*Monkey Island*	US Gold	ST AG PC
3	7	*Fantasy World Dizzy*	Code Masters	ST AG
4	4	*Lemmings*	Psygnosis	ST AG PC
5	NE	*TOKI*	Ocean	ST AG
6	NE	*Kick Off - Winning Tactics*	Anco	AG
7	5	*Defender of the Crown*	Mirror Image	ST AG PC
8	8	*North and South*	Digital Integration	ST AG
9	6	*Gods*	Renegade/Mindscape	ST AG
10	9	*Steve Davis World Snooker*	CDS	ST AG

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible OT = Other
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

GAMES REVIEW

EXILE

Audiogenic • Amiga £25.99, Atari ST £25.99, Commodore 64 Cassette £11.99,Diskette £15.99

Lately the old music biz is going through one of those re-release and remix phases, so now our beloved software side is doing the same. *Exile* however is neither a re-release nor a remix. It is an extension of an old concept though, namely any of those coin-operated style of intertial thrusting and shooting thangs such as *Asteroids or Gravitar* (remember *Firebird's Thrust*?). And speaking of *Thrust*, it's no coincidence that one of the two guys behind *Exile* - namely Jeremy Smith - wrote it. Mr Smith's partner in code is Peter Irvin, the chap behind that classic BBC blaster *Starship Command*. It just so happens that the only thing either of them has written since then has been *Exile*.

But wait. ... wasn't *Exile* available some three years ago on the BBC via a different publisher? Indeed it was. Now it's on three new formats, with a possible Sega MegaDrive console version to come. *Exile* is arguably (but don't bother) the first true arcade adventure. It successfully marries two seemingly widely contrasting themes, those of arcade action and text adventure-style puzzle solving, but in a far less linear way. And right smashing it is too. It's got thrusting. It's got shooting. It's got a huge every-way scrolling planet to explore. It's got objects to collect and use. Hell, it's got more than the lot. What makes *Exile* so smart is the fact that its environment feels so ... well, real.

Apparently the reason for this is the fact that the authors chose to create a model of sorts which incorporates fundamental laws of physics. Objects have individual masses, which means they are affected by gravity in different ways. Most of the puzzles make use of the related effects and the unique level of interaction between objects. Whatever the reason though, it feels divine, especially when you experience some of the interesting inertial effects. But that's not all. The planet's inhabitants have distinct characteristics and seem to have individual levels of intelligence which make them behave

• Most of the planet's living inhabitants are scared of you and so often attack. Vicious birds try to claw your eyes out (but they don't like naked flame), and swarms of killer bees don't take too kindly to being shot at.

PLAYING TIPS

INTERNATIONAL KARATE +

System 3 • Amiga, Atari ST

It's crazy but true... during play, get knocked down then press the SPACE BAR followed by the joystick firebutton. You should now find that for the rest of the round in question you are invulnerable. Repeat whenever necessary. Tap out any of the following codes during play to activate the desired effect... FREZ PAC FISH BIRD PERI Try typing any of these three 'norty' codes for 'amusing' responses ... F*CK C*NT W*NK. Finally, type any of the following to read messages from the author to his chums ANBK ANGL EDHK FOOK GLZP GPZP SHAH SIMR STEW SUNL TOTO

RICK DANGEROUS

MicroStyle • Amiga, Atari ST

Enter POOKY instead of your name in the high score table. You can now start playing from any level you have previously completed.

SWITCHBLADE

Gremlin • Amiga, Atari ST

Enter POOKY instead of your name in the high scoretable. Now when the word SWITCHBLADE assembles press a number key from'1' to '5' and press the joystick firebutton to begin play from thebeginning of the relevant area on the map.

PLAYING TIPS

SPOT Leisure Genius • Amiga, Atari ST, IBM PC & Compatibles • £25.99

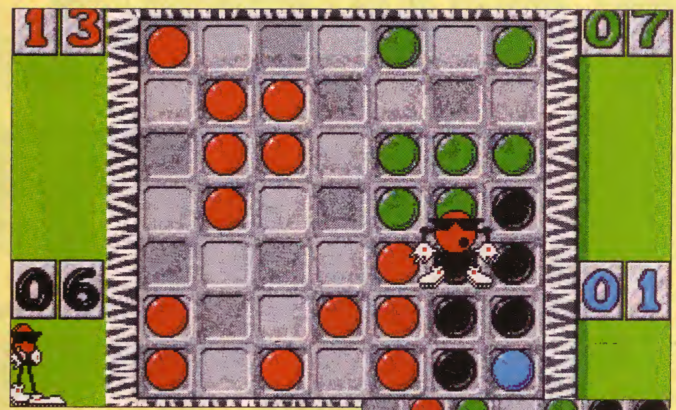
Well well well, here it is at last - the computerised board game which was almost released as *Infection* on the 16-Blitz label at a budget price of £4.99 but ended up on the NES and 16-bit home computer formats as Spot and in the arcades via Leland Trade West as *Attax*.

Spot is the character used to sell the 'un-cola' 7-Up in the States. His appearance here serves no purpose other than as a sales device for Virgin Mastertronic Inc, the American arm of Virgin Games Software which in turn owns Leisure Genius. In fact, the character's irritating antics (he performs time-consuming animations for each move) interrupt the flow of play to the extent that you could be put off playing *Spot* for good. Thank heavens then that someone's had the sense to include an option to remove the little bleeder from the board, for *Spot* turns out to be a highly entertaining computerised board game which couldn't be reproduced any other way without great difficulty.

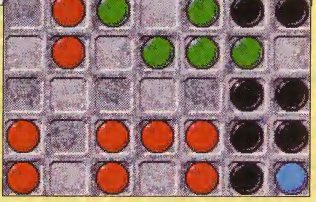
The rules are simple, as they usually are in the best board games. Between two and four players (any or all of which may be human- or computer-controlled) aim to fill the board with as many of their pieces as possible. Each player begins with a single piece in each corner. A piece can be duplicated on an adjacent square or physically moved with a jump over an adjacent square. Any opposing pieces adjacent to the landing site of the piece in play are changed to its colour. And so it goes on until the board is full. Strategic possibilities are in abundance and vary depending on the number of players. For example, two human-controlled players can gang up on another in an attempt to remove them from the board. Computer-controlled players are a little more objective in their approach, though they do represent a tough challenge.

Spot has many small presentation flaws (such as no form of congratulatory sequence for the winner - a terribly disheartening 'GAME OVER' message is displayed and you have to look at the scores to see who won), but it's original and playable enough to last a lifetime.

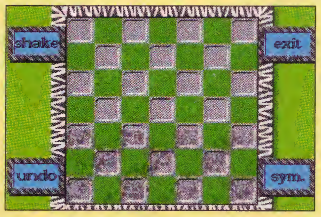
Don't miss it.



▲ *Here we see the Blue player trapped in the corner. He won't be able to move unless a hole is created by his opponents.*



▲ *At last, Blue is free to play. In fact, he's in a position to creates even new Blue pieces at the expense of the other three players. A single jump to the square diagonally opposite does the trick.*

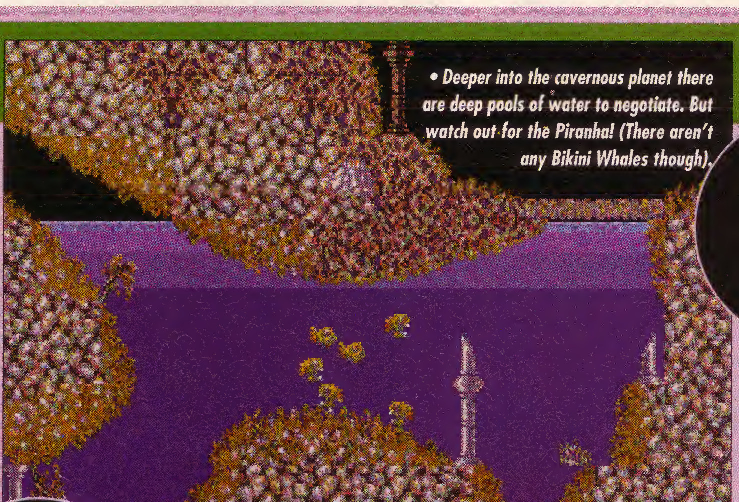


▲ *The Interesting variations on the theme are created by placing holes in the board. The SHAKE option does the job for you, randomly positioning the holes.*

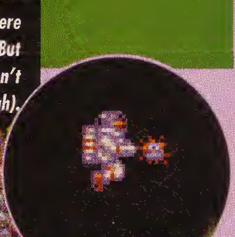
NO TIMER
40 secs
NO CLOCK
EXIT
30 secs
NO TIMER
EXTRAS

• *What possible use could these frogs have? Burning them is non-productive. Giving them to the monkey-like imps on the other hand is a shrewd move. They carry useful objects (such as peculiar mushrooms which can be burned to produce crystals) which they are happy to exchange for frogs.*

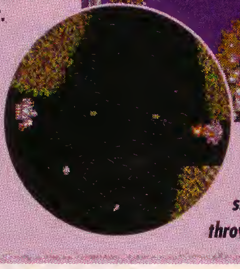
In a believable manner. They even make their own sounds. Heavens, it's a jungle in there. Or a computerised menagerie perhaps. In fact, practically every event has an associated noise too. This level of attention to detail is prevalent to the end. Water splashes when objects hit it, and little wisps of flame appear. All this adds up to a Real Good Time - all round, all told, for not one of the versions smells. They all play as well as each other, even i they do look a little ropey in places. *Exile* represents the future of arcade adventures. In fact, given its unique physics-related properties, with a little imagination it could even revolutionise educational software. Now there's a thought.



• *Deeper into the cavernous planet there are deep pools of water to negotiate. But watch out for the Piranha! (There aren't any Bikini Whales though).*



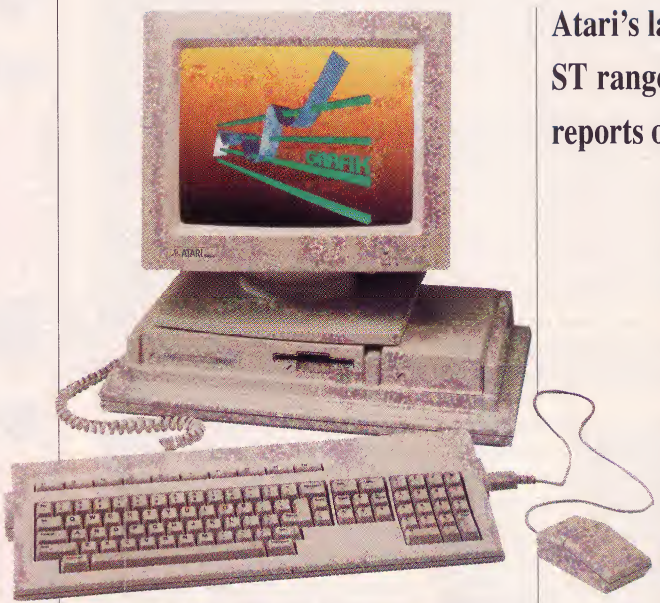
▲ *This here's Fluffy, a small, fluffy (what else?) creature which always wants your attention. The little pest does have its uses though, and is in fact essential for solving some of the later puzzles.*



• *Robotic creations abound in Exile, most of them shooting absolutely anything that moves - including other aggressors. It's not wise to get caught in shoot-outs unless your aim is true. You can always change your firing and throwing trajectory. Alternatively, you could use a grenade to blow the robot away.*

TT RACES AHEAD

Atari's latest creation may not be beautiful, but its processing power and ST range compatibility make it an attractive proposition. Keith Pomfret reports on the TT's beguiling attributes.



• Recognisably Atari but the blocky 'lego' design of the system unit is a thousand miles away from its older cousin the ST.

The TT is Atari's high specification workstation. Its rather terse name refers to the main processor chip which is a 32-bit processor with a 32-bit data bus hence TT. When Atari decided to pitch at the power computing, workstation and graphics area, it had two logical choices - the PC range or the ST range. While some manufacturers chose the precautionary route of remaining with the industry standard PC/MS-DOS architecture, Atari decided to develop its workstation using a faster, better specified processor and retaining downward compatibility with the already popular ST range. This means that, while developers are working on software that specifically takes advantage of the TT's workstation capabilities, there's a vast pool of existing software to dip into that includes everything from games to DTP and other productivity applications.

PROCESSING ON THE DOUBLE

The two features that make the TT a special machine are its processing power and display capabilities. In theory it would be possible to build a computer with a high resolution graphics mode that was useless because of the processing power needed to drive it. This is where the TT comes into its own. The 32-bit wide data bus of the 32MHz 68030 processor effectively doubles the amount of data that the TT can process in a given time compared with, say, a 32MHz 16-bit processor. Number crunching and programs using graphic manipulation are quick on the TT and the architecture of the machine allows it to run multi-tasking operating systems such as UNIX.

SO HOW DOES IT RATE?

FOR
▲ A workstation at a PC price
▲ ST compatibility
▲ High specification

AGAINST
▼ Lego-style design
▼ Not much dedicated software yet
▼ Nasty Atari mouse

LESSONS IN DESIGN

The design of the TT is striking to say the least. A separate keyboard, system unit and monitor conform to the normal PC/workstation configuration, but that's where the similarity ends. No-one could possibly call the TT pretty. The lego/breeze-block styling of the system unit looks like something rejected from a building site.

The base is wider and deeper than the main 'box' which gives the impression of a plastic mantlepiece around its edge. The 720K floppy drive sits in the centre of the box above what looks like a narrow trench designed to keep stray pencils in!

A straight and curly cable connects the keyboard to the system unit and for once, the cable seems to be the right length!

ERGONOMICALLY SOUND

The keyboard conforms to the fairly standard almost PC specification and has two adjustable feet at the rear to alter the working angle. The 10 function keys run along the top of the keyboard and are oblong shaped. At last Atari has got away from the nasty, slanty difficult-to-use function keys of the ST.

A machine that looked to be a hybrid turned out to be strong in several areas.

At each end of the keyboard is a nine pin port, the right taking the mouse and the left the joystick. This is a nice touch as it means that the position of the mouse or joystick is directly dependant on the keyboard rather than the system unit or monitor. Grouping all the input devices together like this can only benefit the ergonomics of the package.

The keyboard is comfortable to use with a good tactile response but a minus point is the bleep that the machine yelps out every time a key is pressed (thankfully it can be disabled).

The keys feel of good quality and are a pleasant rounded shape. The cursor cluster felt a bit close together but this wasn't a severe problem. The mouse is a fairly standard Atari two button squeaker and after ten minutes use it was consigned to the drawer to be replaced on the mouse mat by a Naksha mouse.

The supplied monitor is of multisync VGA colour standard and is able to support all of the ST modes and all but the highest resolution of the TT modes.

The display is flicker free and ST and TT demo programs give a good indication of the machine's graphic capabilities. The smoothly scrolling multi-colour screens suggest the TT is a useful graphics station.

WHO GIVES A TOS?

The operating system supplied with the TT is TOS 030 which is downwardly compatible with the earlier versions of TOS found in the ST, STe and Mega ST machines.

SPECIAL DTP FEATURES

The TT Desktop screen looks familiar to ST and GEM users but comes with the following features not found on the ST:

- Keyboard shortcuts to menus
- Files and folders lie on the desktop
- Keyboard shortcuts for window operations
- File masks to select files shown
- Multiple icon types
- File view options enhanced
- File search
- Direct on-line help

A CHIP OFF THE OLD BLOCK?

If you want a powerful workstation that is able to run the multi tasking UNIX environment, capable of running military favourite OS/9 while still retaining a downward compatibility that will let you run existing ST software, the TT is the machine for you. A machine that looked to be a hybrid turned out to be strong in several areas. It has a good display, strong processing power, tons of existing software and it straddles the gulf between conventional home computers and workstations.

Apart from the design flaws, the TT is an impressive machine. As more software becomes available that can utilise the power of the 68030 chip, it will come into its own. In the meantime, there won't be a shortage of programs to run on it. ■

TT TECHNICAL SPECIFICATIONS

- 32MHz 68030 processor
- Six video modes
- 4096 colour palette (256 on screen)
- 80 column text display
- 2Mb of RAM expandable to 26Mb
- Math Co-processor
- Single 720K floppy
- 40Mb in hard drive
- Ports: SCSI, DMA, parallel, serial, MIDI, stereo audio, ST compatible cartridge port.Network port Analogue video port (VGA monitor compatible)
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IT'S AN OUTRAGE

We asked about your outrageous machines. You produced Atom powered racing cars, stage lighting courtesy of a QL, an Atari oilfield production monitor and a Spectrum with a grown up keyboard and sound to match.

When we suggested that you might like to tell us about your weird and wonderful machines, we hadn't accounted for the ingenuity that could convert the most mundane micro into a dynamic and exciting production. The letters we received ranged from the old and the unusual, to the strange and the plain crazy. An old Commodore Vic 20 was providing hot water and heating for one family, while another machine was vying for the oldest console in living memory. These two megaliths will have to wait for now, though, as we're kicking off with four machines which are stranger than fiction.

ACORN ATOM GETS RACING

First into the arena is John Goldsmith's Acorn Atom. While most Atoms are gathering dust in the cupboard, John's is looking after the tyre squealing excitement at his local slot car racing club. John takes up the story:

The Acorn Atom based race-control system is used by Heron Model Car Racing Club in Bury St Edmunds. The Acorn Atom is truly a classic computer and despite dating from the ZX80 era it is still faster than a Spectrum. It offers pixel addressable graphics, audible sound, standard printer and monitor outputs, and a real keyboard. The Basic is fast for its time and there is a built-in assembler like a Beeb. ROM sockets allow for built-in programs.

The other great advantage of the Atom is the simplicity of its circuitry. A fairly elementary knowledge of electronics is sufficient to understand most of its workings and to construct add-ons.

Heron Model Car Racing Club, which competes in 'serious' slot car racing under British Slot Car Racing Association rules, took advantage of most of these facilities in the Atom to interface its track to the computer. The Atom turns the track power on for the selected race length, and counts the laps. The screen display shows digital and bar-graph lap counts, the selected race length, elapsed time, current leader, laps frozen at 30 second intervals, and incoming count pulses. Alternative programs allow for timing qualifying laps, and for running long team races with lane changes.

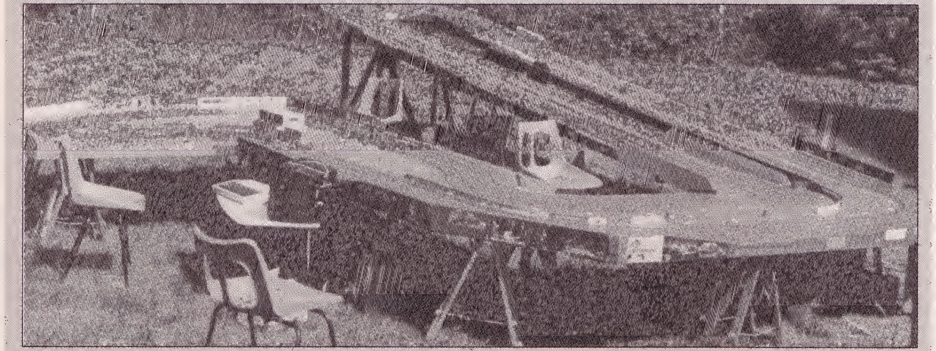
The programs are mainly in BASIC, with a little assembler for the timing clock. Initially the programs were loaded from tape, but later we found a way of storing them in ROM for instant access. We believe the Atom is the only computer which will run BASIC programs from ROM. The later additional programs meant we had to do some modifications to the Atom's hardware to accept extra ROM's.

The Atom's great advantage is its simple circuitry . . . an elementary knowledge of electronics is sufficient to understand its workings and construct

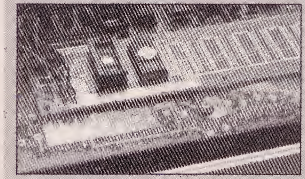
In any project like this it is essential to keep the computer and the controlled circuits well isolated, as something like a slot-car track is full of voltage spikes and large currents which can blow up a computer. We use opto-couplers and relays, plus a bit of circuitry to stretch the pulses received from the lap counters to make sure the computer reads them.

This computer system is in weekly use, plus special events, and is now mounted on its own desk with 20-inch monitor. The programs and interface were developed by Richard Hawes and John Goldsmith, of Heron Computing Club.

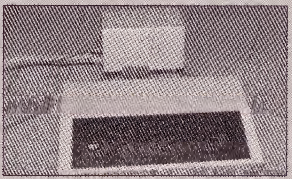
ACORN ATOM INTERFACES WITH MODEL RACING TRACK . . .



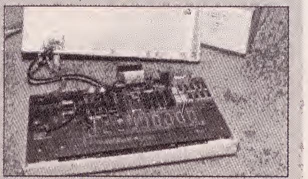
• Heron Model Car Racing Club. Full track with control computer. Not quite Silverstone but enough to get the office boy racers reaching for their car keys.



• Close up of ROM PCB. The software is run from on-board EPROMS



• The Acorn Atom computerand its interface box.



• Inside the Acorn Atom race control computer showing ROM interface.

We also have a program that runs on a BBC B and does the race control administration work logging the results in different driver grades and car classes and continuously displays the top qualifiers for the finals – a system which competitors find very useful as they can check their current position from the public monitor.

This system is used at our own special events, such as the East Anglian Championship rounds, and has also been used at the National Finals. This program is available to anyone who sends me a disk and an SAE – it could be used for any competition which requires entrants to be sorted according to their best score from three, best two of three, or best total of three. Write to John Goldsmith, 20 Trinity Mews, Bury St Edmunds, Suffolk IP33 3AT.

LIGHTS, CAMERA, ACTION

Entering from stage right is a stage control and lighting system running on a Sinclair QL from Andrew Barnes in Preston who says:

I have found a rather unusual use for my Sinclair QL computer. It is not running a power station, but was recently controlling over 15 Kilowatts of stage lighting.

The project came about from my involvement as lighting man for a Parish drama group. We had a manual 12 channel lighting desk which drove dimmers on the stage via a low voltage control cable. While this was adequate, it was felt that it would be useful to be able to store away lighting cues and generate chase effects for dances, lightning and so on. It would also allow the desk to be used by less experienced people. Having a QL at home gathering dust I decided to design an interface to do the job.

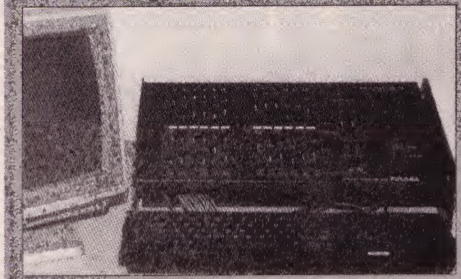
The QL interface was to fit in-line between the control desk and the dimmers. I decided it should have:

- Ease of use based around Menus.
- A real-time graphical display of lamp intensity values.
- Chase effects of any length.
- Timed and manual fades.
- Minimum boot up time.
- The system should be expandable to at least 18 channels.
- Easy editing of stored cues.
- Cues should be able to be stored for future use.
- Text description stored with cue.

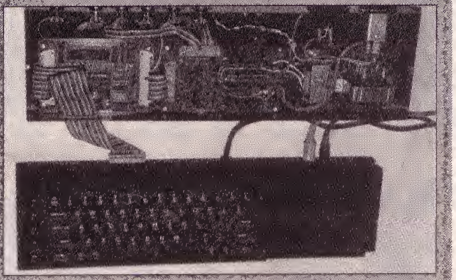
The software was written in 68000 assembly language with some BASIC frontend software. The bar graph display and scaling routines had to by-pass the QDOS operating system to achieve the required update rate.

The program loads in modules at boot time so that it is usable in pass through mode after just a few seconds while the rest of the software and lighting cues are loaded. With just the standard 128K of memory on the QL I was able to store 300 cues, each with a time value and text description.

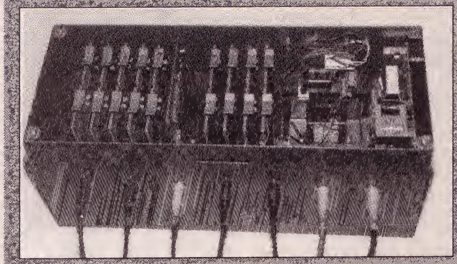
PUMP POWER AT THE PUSH OF A JOYSTICK



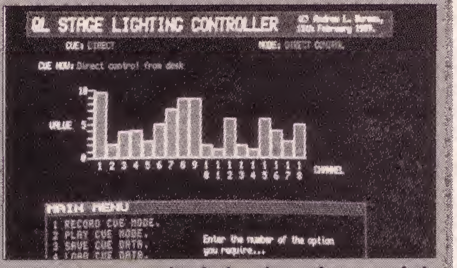
• The QL light controller in operation bringing light to the theatre stages of Lancashire.



• Inside the customised interface there' are fully isolated channels taking the cues to the light rig ...



• ... And at the business end of things, the miodular construction means that upgrade and repair are simple



CUE NOW: Direct control from desk

Enter the number of the option you require...

• On-screen, a graphic display shows the state of the dimmers on stage.

The block diagram of the stage control and lighting system is:

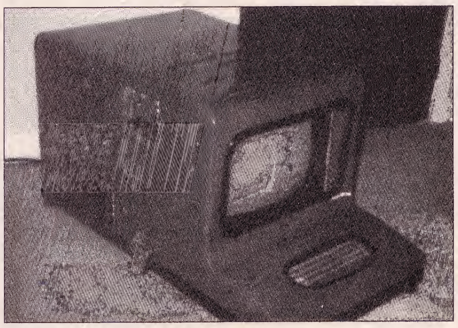
```
Existing        Analogue Ql      Digital to      Existing
Control         to Digital       Analogue        Dimmer
Desk            Converter        Converter       Packs
```

I have included a few pictures of the system and screen shots showing the menus and bar graph display. The system is now two years old and has performed well with no problems. I can recommend the QL to anyone interested in hardware interfacing.

I have now started work converting the software and hardware for my recently acquired Amiga computer. This will allow for more channels, MIDI input, sound to light chase effects and a better user interface. The extra memory will allow for more cue storage.

PUMPING ACTION FROM ATARI

Kenneth Spence from Aberdeenshire reckons that we can thank his hybrid Atari 400/800 XE every time we visit the petrol pumps. Sounds ridiculous? Read on ...



• Oilfield production control thanks to an Atari 400/800 so well designed that not even its mum would recognise it.

The Atari 800XE computer is interfaced to a machine called a power tong which screws together oilfield production tubing. The 'Atari' monitors the torque and the turns and presents them graphically as the tubing is screwed together. When the correct torque and turns are reached, the computer stops the hydraulic power tong by means of a solenoid.

In addition to torque-turn monitoring, it also monitors pressure against time. It's pressure testing ability is used to test such things as the operation of safety valves used in North Sea oilwells.

The casing of the computer was constructed by my grandfather from glass fibre in order to make the computer weatherproof. An Atari 400 membrane keyboard was used as this was more practical for industrial use rather than the existing 800XL keyboard. Graphs are stored using a standard 'Atari 1050 drive' and can also be output to the 'Star LC10'. Torque and pressure are measured by a 0 - 15,000 PSI pressure transducer. The signal is fed through an amplifier then an AD convertor into the cartridge port. Turns are read from a Ferranti Optical Shaft Encoder and are fed into the Joystick Port. The signal for the solenoid comes from the Joystick Port then triggers a power transistor to drive the 3A 12V solenoid.

The program was written in compiled Turbo basic and machine code and the computer has been operating at Petroleum Engineering Services, Aberdeen for one year now with no problems.

I would like to build a new computer using an ST, but I am having difficulty obtaining an AD converter for one. So if anyone can help it would be appreciated – call 0467 32962.

And that's just the beginning. The four machines in this feature are just a dip into the pot pourri of amazing computers that you've told us about. We've had so many that we're saving some of the Circuit City pages to feature more of them over the next few weeks.. ■

IT'S NOT TOO LATE

You too can try for our £50 outrageous machine prize. If you've not already sent us the details, get scribbling and clicking and send us words and pictures of your amazing micros.

The only rule is that there aren't any rules and who cares anyway because rules were made to be bent, broken and circumvented ...

THE ALL-SINGING SPECTRUM

Finally, and to bring us all back to earth with a bang, is Ian Heath's spanking Spectrum. This is without a doubt the best specified Spectrum that we've seen since our sortie to the Soviet Union.

Ian told us about his scintillating Spekkie... Here it is, the 1987 all-singing, all-dancing Sinclair Spectrum Custom 48K with LOUD sound!!

Having spent all my hard-earned dosh on the Sinclair Inedible Wafer I couldn't afford to buy a "real" keyboard to make it look a bit more respectable, so I struggled along with its little multi-function rubber buttons until one day I had a visit from the Good Fairie who seemed like a nice boy.

It appeared that a certain local office was re-vamping its whole computer system - Main Frame, terminals, the lot - and said Fairie could get hold of "one of them computer-things" for me ... for now!

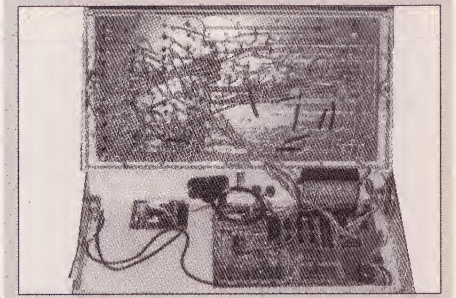
It turned out to be a Bunker Ramo DCS-90 Admin Keyboard. Although this was not a computer in its own right I was excited at the prospect of owning a "full-size" keyboard and set about discovering how to make use of it with my Speccy.

As you can see (I think) from the photographs, I built a discrete-component interface using 40 BC182L transistors and dozens of resistors and diodes, totally eliminating the need for manual gymnastics.

I ended up with 91 operational keys including THE BIG RED labelled "TR"(Total Reset). This key actually took pin 28 of the Z80 to Earth, causing the micro to reset. The Spectrum circuit board was removed from its dimpled rubber overcoat and bolted into the Bunker Ramo. All of the inputs and outputs were brought out through the terminal casing using phono and TV aerial sockets. The expansion bus was extended using a shop-bought 28-way ribbon-cable.

The *Piece de resistance* came in the form of a genuine Sound Output Stage, with a real loudspeaker and volume control, giving no less than 2.5 Watts (RMS) of Spectrum BEEP - Hot Stuff!

I now own an Amiga 500 with extra half Meg, external floppy, and Star LC200 printer, but I still have a soft spot for my old Speccy, and dust it off and plug it in every now and then just for Auld Lang's Syne.



• Inside the home brewed Spectrum the bespoke keyboard interface takes up more room than the main board.

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• A 91 key Spectrum bearing more than a passing resemblance to the Soviet Hobbit Spectrum clone.

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The A4 sized flatbed scanner comes with PC *Paintbrush VI*, a suite of software which allows you to scan and edit your images and all the cables and interfaces to connect the scanner to your PC and for you to get started.

The simple to use scanner reads any paper size up to A4 and because it is a flatbed scanner it can handle awkward and bulky images. Using a mouse, the menus and documentation provided, you can be working within a few minutes.

Whether you want to scan in images for the basis of artwork and logos, or if you'd like to brighten up the office newsletter, the Pentax scanner can convert text, line drawings and even photographs into image files that can be printed out directly, edited and used as illustrations.

In high resolution mode the scanner works at the same resolution as a laser printer (300dpi) and can scan an A4 page in highest resolution in under 20 seconds. As well as the kit provided in the competition, there is an optional sheet feeder available and several suites of software including one that recognises optical characters and can 'read' the page.

For more information about Pentax scanners (and in case you're not the lucky winner) you can call David Miller at Pentax a ring on 081-864 4422.

For now though, answer the questions on the coupon and put your answers in a safe place. In a fortnight we'll run the second half of the scanner competition.

1) What does DPI in the resolution of a scanner stand for?
a) Do partners irritate?
b) Dongles parallel intercept
c) Dots per inch
d) Diminished picture interfaces

2) Which rather splendid scanner manufacturer has the telephone number 081-864 4422?
a) Jodrell Bank
b) Pentax
c) Nat West Bank
d) Ocean Software

3) What can't you do with a flat bed scanner?
a) Digitise photographs
b) Read a book using OCR
c) Prepare artwork for DTP
d) Change the mattress

4) What does DTP stand for?
a) Desk Top Publishing
b) Divisible Typing Processor
c) Deflatable Tyre Pump
d) Don't Talk Pap

5) Which DTP program is Express published on?
a) Pagemaker
b) Protext
c) Ventura
d) Quark *Express*

Complete the following in less than 12 witty words: ***I don't follow trends, I set them and a good example of this is***

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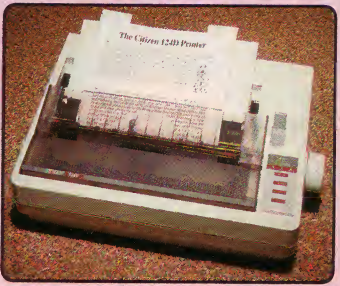

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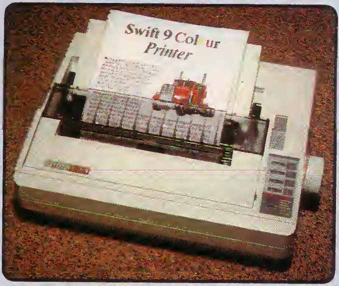

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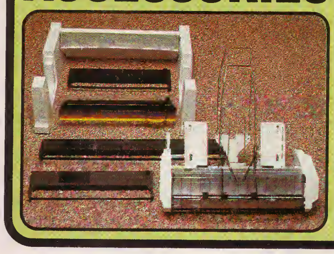

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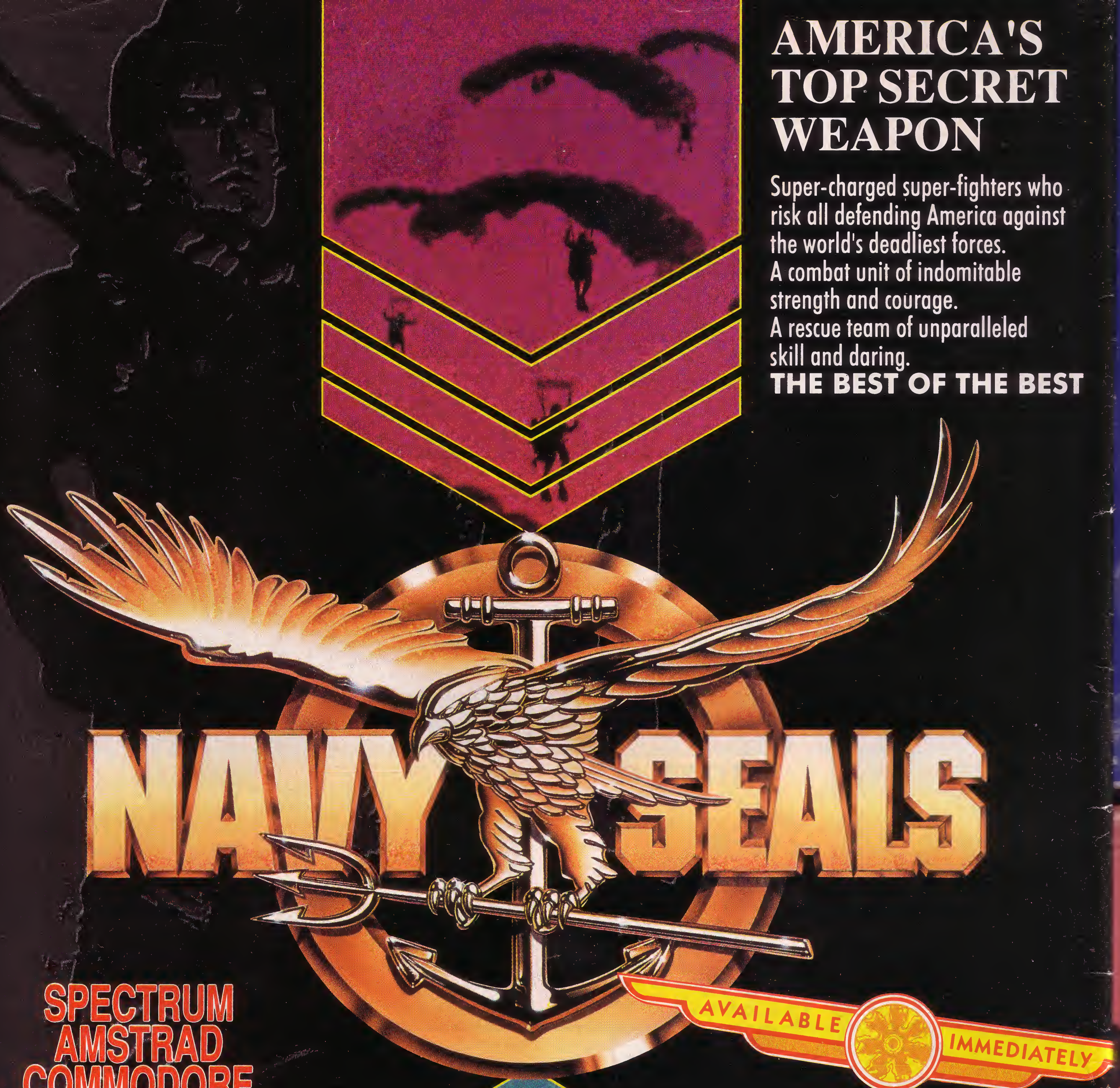

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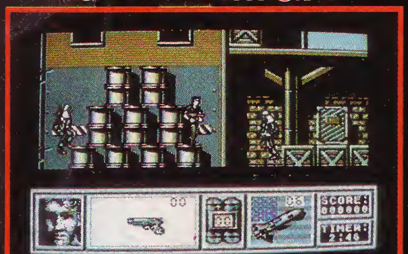

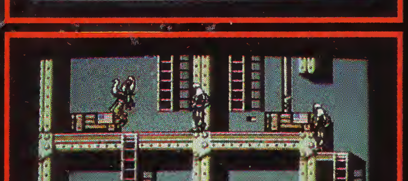

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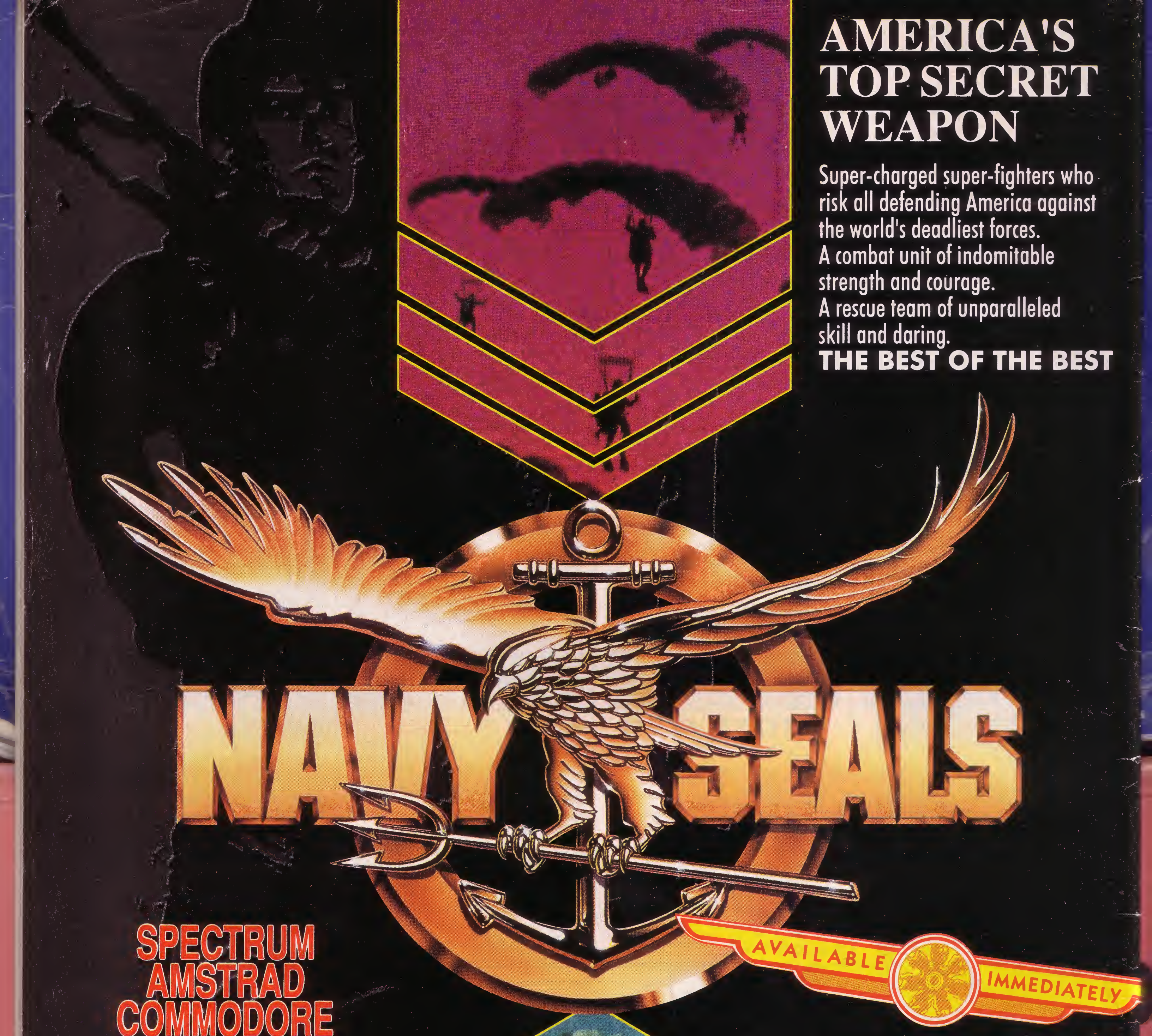

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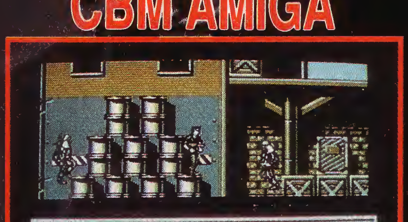

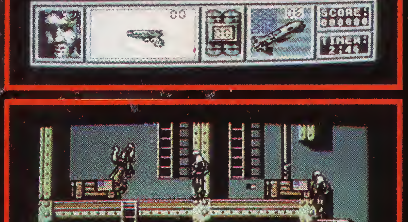

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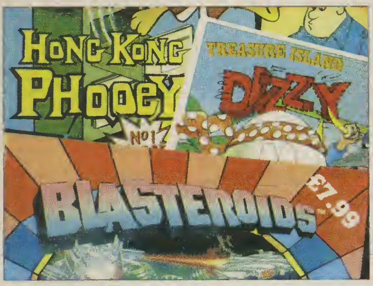
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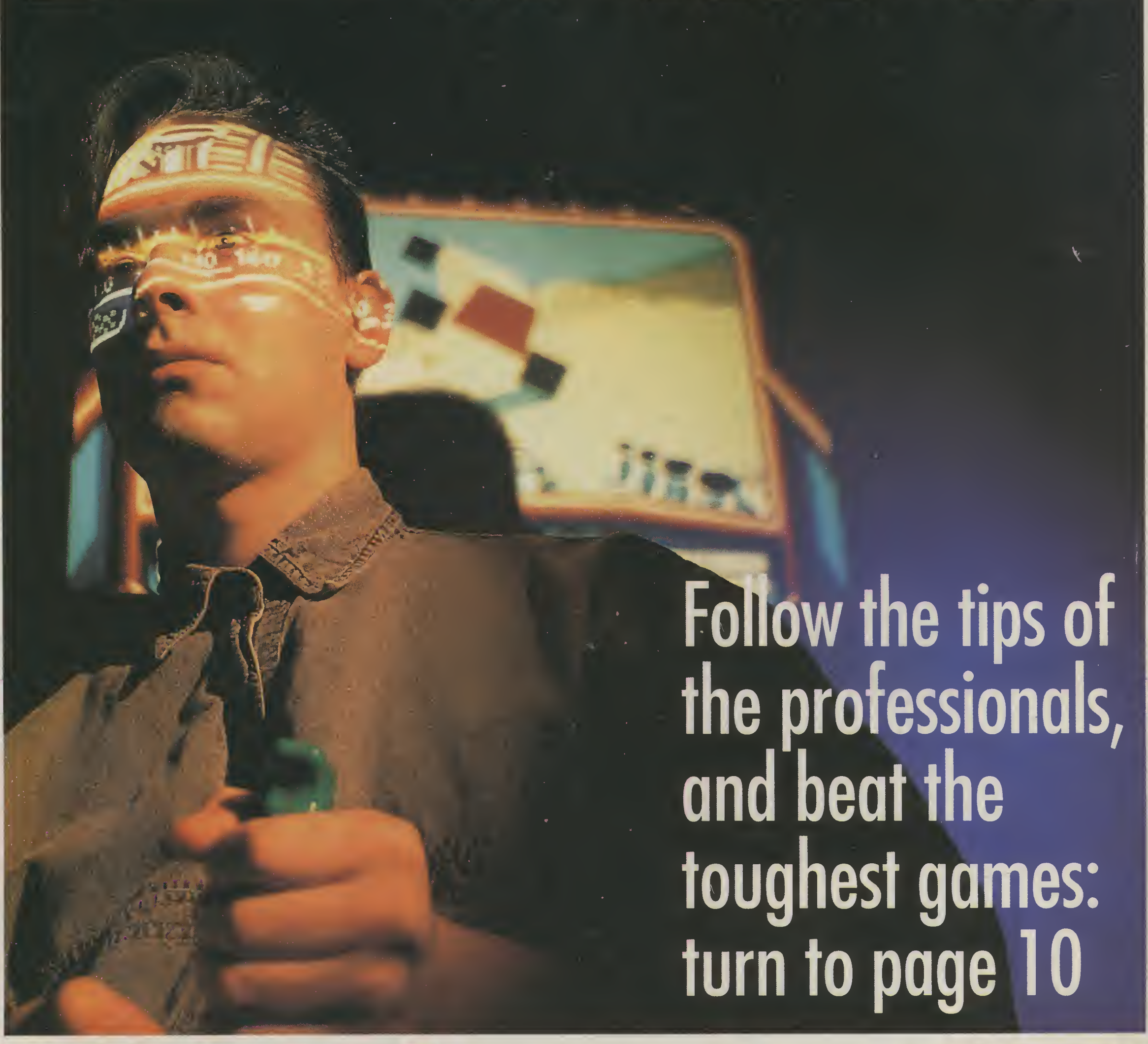

Follow the tips of the professionals, and beat the toughest games: turn to page 10

SEX, VIOLENCE & UTTER TRASH

Read our guide to the controversial and the terrible – page 18

HOW THIS MAN CAN BOIL YOUR BRAIN...

Find out the *wicked* secrets of addictive games – page 12

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Amiga owners are in no doubt that their machine is the best. Not only is it a great productivity computer, it's also an exceptional games console.

Commentators are forever turning toward dedicated games consoles as the future of software entertainment. But judging by the quality of the latest batch of Amiga games, we're not convinced by this argument at all. Check out Stuart Campbell's controversial predictions on the future of Amiga gaming before making your decision.

Also, take a look at our pick of the best of budget games on page 15. We've highlighted twelve titles out of the hundreds on offer. But you might well have better ideas about what makes a great game at a good price. Feel free to drop us a line at the usual address.

And, of course, have some fun...

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Page screenshots: *The Secret of Monkey Island*, *Lemmings* and *Interceptor*.

WHAT'S ON!

INTO THE FUTURE

These are great days for Amiga games, but what of tomorrow? *Express* steps into the Amiga's curious future – page 5

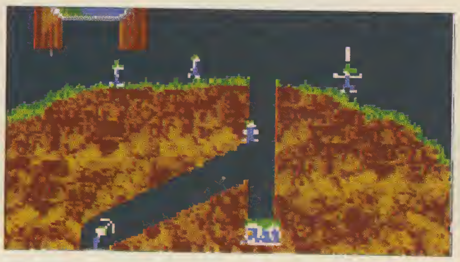
Stan's
previously
owned vessels

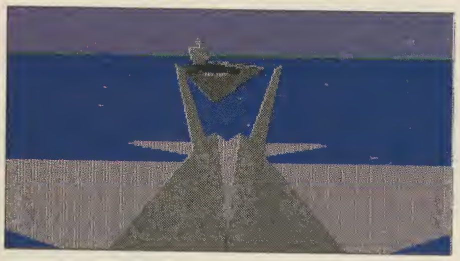
DON'T BE A LOSER

Take control of games by taking the tips of the professionals. Four of the country's best gamers offer advice – page 10

OFF THE HOOK

What makes a game like *Lemmings* so darned difficult to put down? We asked the addiction experts – page 12





CHEAP AND CHEERFUL

Follow our guide to the best of budget and PD games. You can save yourself plenty of money – page 15

FROM THE DUSTBIN

Oh dear! Sometimes games aren't quite as good as they should be. Check out the lowest of the low – page 18

Flight Path 737

PLUS: Win a Philips colour monitor or one of six excellent arcade action packs in our fantasic £2,000 competition – page 22

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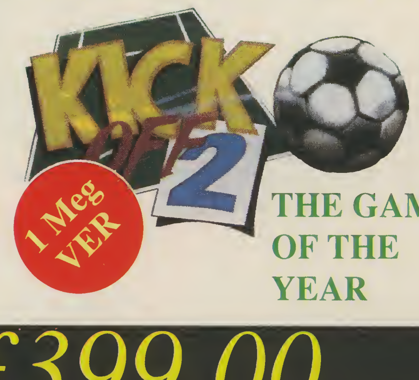

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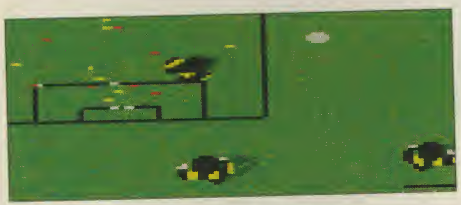
THE HALCYON DAYS OF AMIGA GAMES

There has never been a better time for playing computer games, and there has never been a better computer for the job than the Amiga. But things will not always be so. Stuart Campbell enjoys the Amiga's halcyon days, and takes a pragmatic peer into the future...

Amiga games, eh? Don't you just love 'em? The 1991 state of the art in home based computer entertainment software. The peak of technical excellence coupled with unrivalled scope and diversity, there's truly something for everyone. Yep, there's no doubt about it, if you're a serious and dedicated games player, the Amiga is the only machine for you.

Of course, it hasn't always been thus. As recently as a year ago, 8-bit machines like the Speccy and the C64 still outsold anything else in software terms, and even now they hold a sizeable chunk of the market.



• *Final Whistle: Off the back of another game.*

Today the Amiga is the machine for games players, but a threat has made an appearance. The consoles renaissance is really getting into gear, with the Megadrive, Neo Geo and Super Famicom all either out or imminent, and the Game Boy, Game Gear, Lynx and handheld PC Engine all eating into the game buyer's budget at the same time. So are these the salad days for our old creamy-coloured chum, or is there a big tunnel at the end of all this light? How is the Amiga going to cope with this flood of competition in the years to come?

THE CASTLE'S DUNGEON

• *Fantasy World Dizzy: Original, fun , successful and cheap.*

What, essentially, has the Amiga got that no-one else has? It's time to face facts. For all the Amiga's advantages, it can't compete with the new breed of consoles. (Take a look at *Sonic The Hedgehog* on the Megadrive, then imagine it on an Amiga if you don't believe me.) It was never built to do so.

• *Shadow of the Beast II: Gorgeous graphics but not much of a game. A vision of the future?*

All these new machines are dedicated to one thing and one thing only, the playing of games. They handle graphics better, they move faster, they sound better, they load instantaneously, they pack huge amounts of memory into every game, and when was the last time you played a console game with a serious bug in it, or one that crashed when you did something it couldn't cope with, or one with tacky presentation and clumsy copy protection systems? Never, that's when.

> **'The 8-bit market has stagnated to a degree that must terrify 16-bit producers. The same fate could await them.'**

The old bugbear about consoles only having two kinds of game, the shoot-'em-up and the Mario-style platform game, is dead now too, with *Populous* and *Lemmings* showing up on the Megadrive, and fantasy RPG on consoles turning into a booming industry. So forget arcade games, forget strategy games, forget RPG. The Amiga is going to be outmanoeuvered by machines costing half as much as it does, and as 16-bit software becomes more and more expensive, the traditional price differential is going to become more and more eroded too. So what's left for the Amiga?

UK AMIGA GAMES CHART DEC 1988

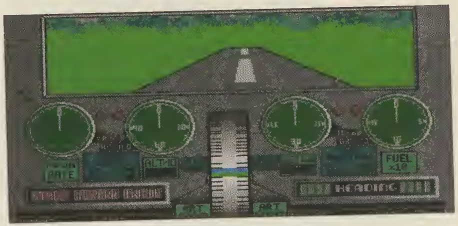
1) Operation Wolf
2) Double Dragon
3) ThunderBlade
4) Batman
5) Football Manager 2
6) Pacmania
7) Elite
8) Return Of The Jedi
9) Daley Thompson's Olympic Challenge
10) OutRun

UK AMIGA GAMES CHART MAY 1991

1) Lemmings
2) Speedball 2
3) SWIV
4) Fantasy World Dizzy
5) R-Type
6) Final Whistle
7) Little Puff In Dragon Land
8) F-19 Stealth Fighter
9) A-10 Tank Killer
10) Super Hang-On

The answer seems to be, 'specialisation'. The Amiga's always been something of a jack-of-all-trades, but it seems like the time has come for it to find a niche. Let's step back in time for a moment, to the time when the Amiga first became a major force in software sales. The December 1988 top ten (boxed) shows quite a narrow band of styles. Lots of arcade conversions and licenses and very little else. Back to the present day, though, and the picture is a little different (above).

Barely a license in sight, and half the chart is made up of budget software, either original or cut-price re-release. Already a couple of minority interest simulations have crossed over into the realms of mass appeal, and there are more on the way (*Mig 29*, for example, seems set for a long residency in the charts).



• *Flight Path 737: Utter nonsense, for only £2.99*

A larger and larger proportion of the games in my own mag, *Amiga Power*, seem these days to be made up of 'serious' types, be they flight sims, wargames, or sprawling strategic adventure things. The one thing they all have in common is that they're the kind of games you don't really ever see on consoles. The picture seems to be clear. More and more, Amiga software appears to be heading in a very specialised direction, targeted at the older gamer, and possibly at the kind of person who doesn't consider themselves a 'games player' at all.

The other feature of today's chart, and one which looks like becoming a lot more pronounced in the future, is the polarisation of prices. Frequently, top-of-the-range Amiga software is priced at £30 and over, but it's almost matched sale-for-sale by budget games costing £8 and less. Indeed, very recently a substantial range of Amiga games has been launched at the incredible price of £2.99, directly comparable with 8-bit budget games.

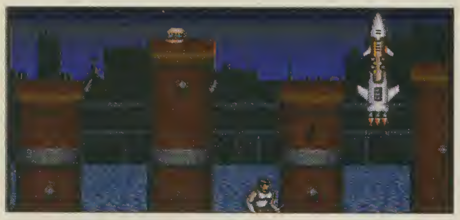
Many of the games in the range are one-time full-price titles on a second wind.

Continued on page 6 ➤

OUT OF POCKET?

The Amiga market will divide into two very distinct sections, with buyers satisfying their thirst for new games with cheapo stuff, and only occasionally splashing out on prestige releases. Much the same situation exists at the moment with the 8-bit machines.

The vast majority of their charts consist of budget software, with only the really exceptional full-pricers putting in an appearance. What's more, those full-pricers are practically always conversions of 16-bit games and arcade licenses. When was the last time you saw a great original 8-bit game? Come to that, when was the last time you saw an original 8-bit game full stop?



• Switchblade II: Possibly the first Amiga game to truly look and feel as if it belongs in an arcade.

Unfortunately, the 8-bit market has stagnated to a degree that must terrify 16-bit producers, as exactly the same fate could await them, except over a much shorter period. The C64 and Speccy have both been on the go for some nine years now, but the parallels between their software market and the three-year-old (in terms of worthwhile sales) Amiga's are already apparent.

If the Amiga doesn't find itself a little corner soon, it could be squeezed out between the consoles (the cutting edge of technology) and the cheaper machines (entry-level prices, and with established user base).

WHAT ABOUT CDTV?

"But what about CDTV?", you cry. "Surely that's going to lift the Amiga into a whole new dimension, bringing it to a mass (family) market while at the same time improving the prospects for existing users beyond belief." Don't make me laugh. However much Commodore protests to the contrary, CDTV is going to be seen by consumers as a computer product, and at £600 is going to appeal only to a very small minority of rich technophiles.

It's well beyond the reach of the masses, and as such won't inspire any really significant software market. If the price differential between tape-based and disk-based games (or for that matter, the price differential between vinyl and CD products in the music industry) is anything to go by, CDTV will simply provide the software business with an excuse to charge even higher prices for the same old product, driving the paying punter still deeper into the grateful arms of Nintendo and Sega. (Remember, the Megadrive currently retails at £149 or less, and it's going to go down before up.)

CDTV is also likely to kill off the embryonic Amiga cartridge market, knocking out the last real chance of competing with the consoles on their own ground. Some believe that this will all mean an increase in the numbers of people owning both a console and a computer, but that's only going to happen if computers provide something the consoles don't.

• CDTV: new beginnings, but not a revolution.

• F19: Flight simulations and other' 'serious' games will play an increasingly dominant role in Amiga development schedules.

THE FINAL SCORE

So where does that leave us? Well, if we're not careful, I see it leaving the Amiga as a declining minority interest, perhaps occupying a similar position to that of the 8-bit machines today. Dirt-cheap games will sell in big numbers to the existing user base, and specialist-appeal titles such as flight sims and Sierra-type adventures (which don't tend to interest the console buyer) will dominate the full-price listings.

The Amiga as a games machine will become more and more marginalised, and increasingly the domain of musicians and artists. As for the quality of the games, I don't really think there's that much room for improvement on what exists now, and more importantly not much incentive for producers to improve. The negligible levels of console piracy will attract developers in large numbers (it's already started), and Amiga owners will have little option other than to buy what's on offer. In such a climate, the predominance is likely to be of tried-and-trusted formulas, and ever more sequels and 'updates'. (Of the last *Amiga Power* top 40, 13 out of 28 'original' - as opposed to re-released - games were sequels or follow-ups to previous hits).

Mind you, stuff like *Switchblade II* proves that even if innovation is thin on the ground, we'll still be looking at some pretty spiffing software. Free from the burden of thinking too much, Amiga programmers will be able to really go to town on providing decent gameplay and proper presentation (for once), and maybe even games without disk swapping and huge accessing pauses! (Can you imagine console owners putting up with that? "Insert cartridge two" ...I don't think.)

You've heard a great deal about how great the Amiga is, and most of that information is completely accurate. But it would be foolish indeed for games players and producers to expect this state of affairs to last forever. At present we're being treated to a healthy mix of wonderfully challenging and innovative games, and cheap fun affairs.

Over the next few years programmers and games designers will continue to experiment, and the result will be good for us. Our only fear is from the very same march of low-cost technology which brought us the Amiga in the first place.

The Amiga continues to head the 'cool bits of hardware to own' league, and the British love of computers which are more than games machines shows little sign of cooling. So let's look forward with cautious optimism. It could well be that we're very close to the zenith of the Amiga's triumphs. Make the most of the good times.■

COMING SOON TO SAVE THE WORLD

Loook out for these great games which are bound to capture the headlines over the coming months.

R-TYPE II (Activision)
This could be the coin-op conversion that makes the critics eat their words. Due out for ages, it should finally hit the streets this summer and it's looking flawless, complete with the parallax-scrolling backgrounds that were missing from the first game. Arcade perfection at last? Let's wait and see.

THE SECRET OF MONKEY ISLAND II (Lucasfilm/US Gold)
Many people are touting *The Secret Of Monkey Island* as the best adventure game on any machine anywhere ever, and the sequel promises to be even better (promises, promises...). If the programmers improve on the first game just a tiny little bit, it'll still be utterly stunning.

TIP OFF (Anco)
Dino Dini's football sim *Kick Off 2* is almost certainly the most popular and successful sports game ever, so the news that he's turning his talents to the even faster-moving sport of basketball comes as a Godsend to all fans of lightning-fast and realistic sporting action. A speeding bullet won't have anything on this one.

BIRDS OF PREY (Electronic Arts)
Four years in the making, *Birds Of Prey* (nee *Hawk*) certainly OUGHT to be the be-all-and-end-all of flight simulations. Almost every plane currently in service in the world, from the A-10 Tankbuster to the Boeing 747, is simulated, and with a practically infinite range of missions you'll never get bored. See if it was worth the wait, any month now...

SMASH TV (Ocean)
The best arcade game of recent years (to these eyes anyway) comes to the Amiga near the end of the year, courtesy of programming legend ZZKJ (the man behind *Super Hang-On*, *Super Monaco GP* and many more). If anyone can convert the awesome slaughterfest that was the coin-op onto 16-bit, it's our tip for the top this year.

CREATION (Electronic Arts)
Programming team Bullfrog have made quite a name for themselves writing God simulations, but this forthcoming release could be the ultimate. You actually control evolution itself in an attempt to create the ideal lifeform, by crossing different species in response to changing circumstances. (I should think crossing a giraffe with a Tyrannosaurus Rex should cover most eventualities.)

MAGIC POCKETS (Renegade)
Of course, the real strength of the console machines up until now has lain in the world of cutesy arcade platform games in the Mario tradition. The Bitmap Brothers (of *Xenon 2*, *Speedball 2* and *Gods* fame) are set to take them on on their own ground with this game, which promises to take all of the best elements from previous games in the genre and weld them together into something really quite special.

SONIC THE HEDGEHOG (US Gold?)
It remains to be confirmed that USG has snapped up this license, but one way or another, this more than any other could be the game that shapes the Amiga's future. If it's converted from the amazing Megadrive original well, it could give the Amiga years of extra life as an arcade gamer's dream machine.

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WHEN WINNING

There are plenty of tips, cheats, hints and pokes for individual games doing the rounds, but what about a guide which can help you win any type of game? *Express* recruited four of Britain's best Amiga gamers, each a specialist in their favourite genre, and talked them into revealing their secrets...

SHOOT TO KILL

Bob Wade is editor of *Amiga Shopper*. Formerly editor, writer or reviewer for *Amiga Format*, *ACE* and *Amstrad Action*. Says Bob: "I've been playing games professionally for six years, in fact I've been hooked on shoot-'em-ups for ten years."

When it comes to shoot-'em-ups I don't think there's any need for genre explanations. But these twelve tips should help you be victorious in your lethal lead spraying.

1. Learn patterns

Most vertically scrolling shoot-'em-ups, like ***SWIV*** for instance, have all enemies appearing in particular attack patterns. So pay strict attention to what appears where and when. Next time you can be in position ready and waiting for the horrible little suckers.

2. Learn tactics

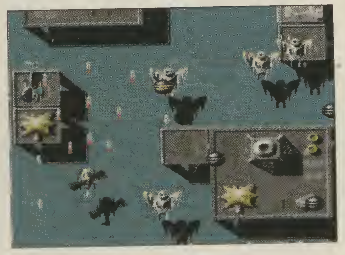
If they aren't in a pre-defined attack pattern then aliens will have pre-defined attack tactics which again, you must learn and exploit to the full. For example the pests in ***Virus*** home in on you, but sitting still and letting them buzz around you is the easiest way to blast them – remember aliens don't learn by their mistakes – yet.

3. Bottom bandits

Always beware the alien that sneaks up from behind. This applies to horizontal, vertical and 3D shoot-'em-ups. Sit at the back of the screen and you're just asking for a rear raid.

4. Dodging

Always be prepared to run away, run away, run away quickly.This is not cowardice, just plain common sense, if you're at a disadvantage. Most attackers disappear after a while, so practice evasion techniques.



• *SWIV: Watch those attack patterns*

5. Smart bombs

Save these for dire emergencies when you only have a life or two left or are approaching a crucial restart point. They are a last resort not to be used at the first sign of trouble. In fact a good ***Defender*** player would frown on using them at all.

6. Bonuses

There is no such thing as a bonus worth dying for. They can be valuable, but the penalties incurred by dying are always large – if it's too risky forget it.

7. Check your weapons

Are you sure you're using the correct weapon for taking out that beastie? Could you do it faster with something else? Always experiment because you could make life much easier.

8. Mind the trees

Watch out for innocent bits of vegetation and building, they might just make you explode. There you are cruising over a spaceship in ***Uridium*** and KABOOM, head on into a small block. There's not an enemy in sight and don't you feel a silly prat?

9. Team work

There's no point being competitive in a shoot-'em-up. If you can team up with another player you can wipe those alien scum-suckers in half the time. Check out the ageing beastie ***Plutos*** for a classic case of 'you take the left side and I'll take the right'.

10. Move

Sit still and you're dead. This applies to 3D shoot-em-ups where you have to keep

ARCADE ADVENTURES

Gary Penn is arguably Britain's most experienced games reviewer. He's worked on just about every computer mag worth mentioning, and is now *Express'* games editor consultant editor of *Amiga Power*.

An adventure with arcade overtones? Or arcade action with adventure undertones? The arcade adventure label could quite easily be slapped on practically every form of entertainment software in the world.

It is however more often associated with any form of gameplay which requires running and jumping around, avoiding traps, occasionally shooting or fighting or picking up things and solving simple puzzles, which is usually a matter of placing the right object in the right place at the right time. The platform-based ***Rick Dangerous*** series, ***Gods*** and ***Chubby Gristle*** are good examples in that particular department. The arcade adventure tag does tend to extend also to run 'n' jump romps which have fewer but less obvious puzzles to solve.

• *Prince of Persia: Know when to jump.*

Rainbow Islands, Chuck Rock and ***Prince Of Persia*** are three representative titles which spring to mind. Here then are 10 fundamental facts which should ensure that innocent arcade adventurers' progress is made in leaps and bounds.

1. Get a grip

A joystick with healthy tactile feedback and easily achieved diagonal movements is a must. Most run 'n' jump affairs involve an upward joystick movement to execute the crucial jumping aspect.

2. If at first you don't succeed...

... try and try again. No really. If you don't take the time to familiarise yourself with your new found environment during the first few plays, you may not live to regret it.

3. A man's gotta know his limitations

Before you begin the mission proper, get used the behaviour of the character under your control, particularly if he, she or it has any peculiar properties.

4. Get a feel

Find out how far you can fall without dying, how far you can jump and how far you can 'hang' off a platform. Do all these early on to avoid mistakes at crucial stages of the game.

5. Make like an ape

By and large the adversaries in arcade adventures move in not so mysterious ways. Study their behaviour and become a David Attenborough type bore. Being able to predict adversaries' movements is essential to success.

6. Look before you leap

It's as simple as that.

7. Maps the way to do it

Not all arcade adventures require a map, but some are so vast that one can prove essential. Even a simple set of boxes is better than nothing - at least you can make a note of what's what and where. And you can always send the map to your favourite magazine with a view to it being published.

8. Take it easy

Remember, fools rush in where wise men fear to tread. When playing an arcade adventure with push-scrolling or burst scrolling which is dictated by the player's position on screen, be careful not to run into trouble. You can occasionally use the scrolling to your advantage by keeping down the

IS EVERYTHING

on the move because the bad guys will home in on you and shoot at you – coo, what nasty aliens! Classic examples include my favourite *Elite* and *Encounter*.

11. Collision detection
Don't chance your arm too much because complaining that 'he never touched me' will not bring that life back – don't get cocky, give things a wide berth.

• Xenon II: Watch your back.

12. Guardians
If it flashes you've scored a palpable hit and should keep shooting that bit until it goes bang. If it doesn't flash try to shoot something else until it does. If nothing flashes then just shoot anything. If it still won't die you should either run away quickly, get a bigger and better weapon or phone the programmers to complain that their game is too hard.

quantity of adversaries on screen to a minimum. In some circumstances it's even possible to scroll adversaries out of harm's way.

9. Keep 'em peeled
Arcade adventure designers are invariably sadistic sons of mothers. They seem to think it's funny to put traps, such as spikes and pits and collapsing floors, all over the shop. So, when you enter a room or whatever for the first time, stop, look and listen before you make a move.

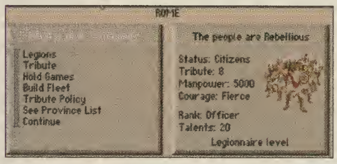
• Rainbow Islands: Look out for traps.

10. Keep an open mind
Don't ever be afraid to experiment: solutions, short cuts and handy tricks are usually there. It's just a matter of being bold enough to look.

STUCK ON STRATEGY?

Trenton Webb is *Amiga Format's* games expert. His working week (and leisure hours) are spent tackling any type of Amiga game, and the cards are usually stacked in his favour when it comes to strategy.

Strategy games owe less to computers and more to their table top simulations. The advantage of playing them on the computer is that it takes care of the rule checking, tabulation and calculation of hits. Whats more, the same event can be replayed continually, by using a saved game, which allows an analysis of strategy (both friend and foe) and offers greater freedom of experimentation.



ROME

Legions
Tribute
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Build Fleet
Tribute Policy
See Province List
Continue

The people are Rebellious

Status: Citizens
Tribute: 8
Manpower: 5000
Courage: Fierce

Rank: Officer
Talents: 20

Legionnaire level

• Centurian: Test it to the limits.

The only major difference between the two forms is that computer games are always designed to be played solo, with the Amiga providing your strategic foil. This means that initially the computer will have an edge, as it will have a full range of moves and tactics built in. But, if carefully observed it may prove more obvious and less canny than a human foe.

1. Read the manual
Obvious, but necessary. Don't just skim through the rules piecemeal, really read them. Only then will you be able to understand the concept, level and particular approach that the game takes to its subject.

2. Try to work out the true goals
You can't win if you do not know the specific victory conditions of each scenario, and at each level of the game. Go into the game understanding your minimum success conditions.

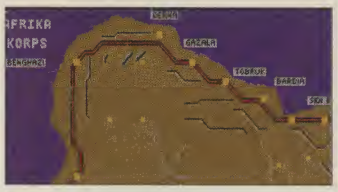
3. Get a grasp of game mechanics
Is it played in real time or are there turns? Are there limits within each turn? If there are turns how are they structured? Actions or decisions taken at the beginning of your game turn may limit actions at the end, so plan a whole turn before touching anything.

4. Find out what's important
Work out which elements lay at the core of the game and which ones are just window dressing. Many games feature options which satisfy historical needs and not game requirements. If these exist find, and then ignore them.

5. Don't play to win straight away
There's no point. You won't win so don't try. First follow any play through guides offered which serve as trainers and reveal the factors which the coders see as the key elements. And if they think something is important, then in game terms, it is.

6. Build up to the main game slowly
If there are different levels of difficulty, work through them. Each will either introduce new elements or stress existing ones further. This exercise reveals which particular elements of the game are crucial to victory. Concentrate on mastering these.

7. Be outrageous.
Each strategy game has limits which are only revealed when extreme strategies are tried. In a wargame try using only one type of troop, to find their strengths and weaknesses. So keep pushing the game till it breaks.



• Africa Korps: Work out its strategy.

8. Save, save and save again
Every time a new area of the game is reached, save. Mistakes are likely as you step into the unknown.

9. Work out how the computer opponent plays
Does it have an overall strategy or does it simply respond to your actions? If the computer employs a consistent strategy, work out where, why and how it will deviate from this plan in response to your actions. If the computer opponent is highly responsive, learn how to sucker it.

10. Be analytical and patient
Always make notes. Strategy games are not memory tests.

ANGLES ON ADVENTURES

Sean Masterson is a former adventure designer for The Games Workshop and is now dep ed of *Commodore Format.*

1. Play in a group
Party based role playing games in particular are very social games so try not to play them alone.

2. Be patient
Things are going to happen slowly to begin with. You can use this space to pace yourselves for when the going gets rough.

3. Learn your powers
Make sure that you know what everything on the screen does. Interfaces are designed to be as intuitive as possible so you should be able to practice.

4. Swot up on the game
Browse through the manual. The better the manual, the more like a reference book it will be.

5. Don't rely on documentation You'll get stuck from time to time. There are clue books and guides but to use one too much too soon can spoil the fun.

6.Save often
It's the sensible way to make progress.

7. Be adventurous.
Have fun looking for clues. If the game catches your imagination, there's a lot of pleasure to be had from looking for clues in them.

8. Be smarter than the game.
Get used to its little tricks.

9. Don't take any stick
Sooner or later you're going to want to beat the game once and for all and that invariably requires fighting. Get stuck in.

10. Get a co-pilot
Some games can be driven from simultaneous controls, in which case team up with a co-pilot. One of you can handle the weapons while the other navigates when the game heats up.

TOTALLY ADDICTED?

We've all been hooked by a seemingly innocent shoot-'em-up; we've all been trapped by some curious arcade puzzler. But what makes a game so difficult to put down? We asked the writers of Britain's most insidious and addictive Amiga games to explain their actions...

ANDREW BRAYBROOK

Team: Grafgold • Best work: Rainbow Islands

If only there were three lines of code which would guarantee that a game be addictive. But there isn't...

I find that I can't really be sure that a game's going to work until it is completely finished, then I can judge.

The best trick is to remove obstacles which stop a game being addictive, rather than adding ingredients to make it addictive. If something in the control mode is too frustrating it will ruin the game. There is a very thin line between frustrating and addictive.

With *Rainbow Islands* it was all in the design and planning. It took Taito two years to plan the game and lay it out before they started programming. We were determined to keep the game true to the original coin-op. The best thing is that you have so much freedom in *Rainbow*. You can take it quickly or carefully, and the control is so flexible. You can do so many things with those rainbows without any trouble. You have to use common sense rather than throwing a massive IQ at the problems, which is fun.

At the moment I'm playing *Lemmings* a great deal. When I first saw the game it really didn't grab me. I saw all these little creatures moving around and thought: 'Who cares?'. But once you learn the controls they become almost automatic. Once you've solved a problem you never have to struggle with it again. That makes a good game. People want to move on, it's that urge to progress.

ERIC MATTHEWS

Team: Bitmap Brothers • Best work: Xenon II

With *Gods* we took a standard format for a platform game and added plenty of surprises. It's important that there are graphical changes and different characters, although it's not so much a case of cramming lots of interesting things in, as carefully planning when to introduce weapons, new characters or monsters.

At the beginning of *Xenon II* players get to see some of the weapons on offer. They say, "I want to get my hands on that" and it gives them a target. The first sequence is a good place to let players get used to the controls, and to give them an idea of what to expect.

The hardest part is difficulty level. I think we made the original *Xenon* too hard. When you're involved in the development of a game for a long time you forget how good you've become at playing it.

It's important to step back and let someone you trust have a play. Then you can get the measure of how hard the game really is.

It's also silly when a game sticks you back at the beginning of a level when you've nearly arrived at the end. That's just infuriating. I think a lot of people also find it annoying when they get killed and lose all the weapons they've built up. If you can't survive with an arsenal of weapons, how are you going to manage with hardly any at all? It doesn't make sense.

PETER MOLYNEUX

Team: Bullfrog • Best work: Populous

There are a number of golden rules which should not be ignored. You'll find them used in all the famously addictive games starting with *Space Invaders*.

One is time pressure, whether it be a clock counting down, or the monsters in *Invaders* coming faster down the screen. It keeps people interested and on their toes.

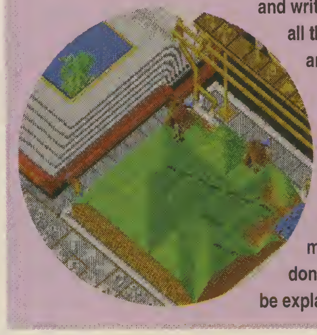
Two should be the 'oh, what comes next?' factor. The best for this are role playing games lke *Dungeon Master*. You keep playing because you always want to know what's coming next. What's the next dungeon going to look like? What's on the next level? It's that mystery which keeps you going.

Three is linked to that, it's character improvement. A good shoot-em-up will feature this by providing an advancing player with more weapons or extra power.

Four is logic. Anything you come up against must have an element of logic. It's no good if level one of a game is easy and then level two is almost impossible. Everything must be easy to understand and not confusing.

Five is fairness. Players have to feel that they are being offered a fair deal. They don't want to feel that the game is against them as well as the enemy characters.

All the best games feature these elements, but there is more. You can't sit down and write a game with all those features, and then expect it to be immediately addictive. There is an extra quality which is so mysterious that I don't think it can be explained.



DAVID JONES

Team: DMA Design • Best work: Lemmings

Lemmings is so good because there's so much freedom to play. You can go where you want and do what you want, that's the way we always planned the game.

At every level you know what you have to do, but actually achieving those goals is a different matter. It's up to the player, and he know that if he fails there's no-one to blame but himself.

When we're writing a game we have to be sure that little things like collision detection are absolutely spot on. There's nothing worse than being killed for no good reason. People lose trust in a game and give up.

We like to keep each level short so there's no loss of interest. You also have to provide a nice linear playability curve so that the game is easy to begin with, but becomes progressively more challenging.

I find games like Electronic Arts' *F18 Interceptor* very addictive, because they provide you with missions. That way you can go out and try and complete a task, rather than getting involved in a very long and tiresome game.

Playability is the all important factor whether you're talking about *Manic Minor*, *Lemmings* or flight simulators.

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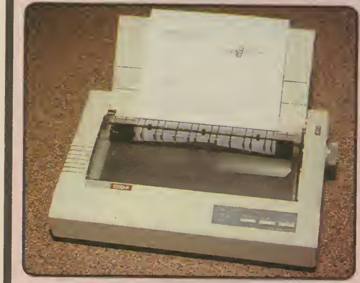

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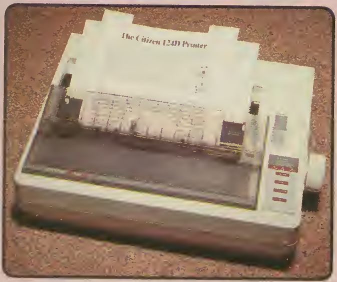

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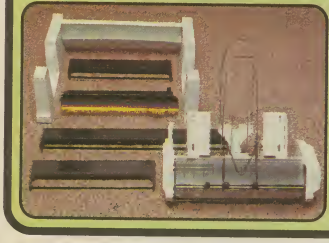

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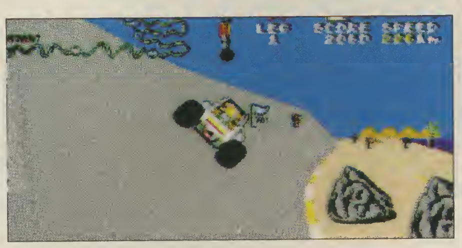
THERE'S A LITTLE BIT OF COMMODORE IN ALL OF US

IN AT THE CHEAP END

Pragmatic Amiga owners always keep their eyes peeled for cracking games which cost less than a tenner. *Express* rummages around in the bargain basement, and leaves with an armful of low-cost classics

BUGGY BOY

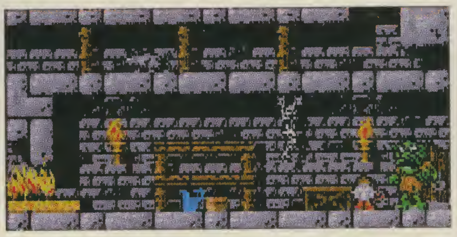
Encore • £9.99



Bumbling along simple driving courses in a non too speedy beach buggy may sound like the ingredients of a dull and dreary game. Fortunately, *Buggy Boy* is anything but. In your quest to avoid rocks and brush, you have to pick up cute little flags and run into bouncy red balls. The aim is to improve your speed and flag rating, and you're likely to spend hours doing just that. Best fun when trying to beat your pals' fastest times.

FANTASY WORLD DIZZY

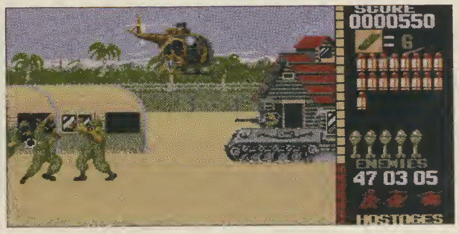
Code Masters • £7.99



Sillyness and off the wall fun is the theme for most Code Masters games, and *Fantasy World Dizzy* is no exception. You might think that this is an odd choice among such celebrities as *Op Wolf, Interceptor* and *Carrier Command*, but those boys at the Coders are forever churning out charming cartoon adventures guaranteed to keep youngsters happy. Look out for other titles including *Fast Food* and *Little Puff.*

OPERATION WOLF

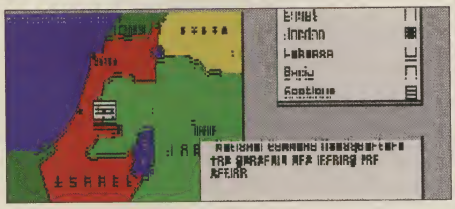
The Hit Squad • £7.99



At times relentlessly violent, and at other times even more relentlessly violent. It's an amphetamine death-rush through hundreds of nasty guerillas, and you're armed with nothing more than a few tons of extremely unpleasant hardware. A former Christmas number one, and with good reason. Anybody with a penchant for action will not be disappointed. It's a blood-fest of unprecedented nastiness. What could be better?

CONFLICT

16-Blitz • £4.99

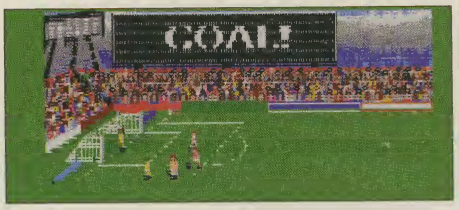


Political and military strategy games are poorly represented at the bottom end of the price scale, so it came as something of a surprise when 16-Blitz unleashed this delightful little puzzler.

You are the top man in Israel sometime in the near future, and it's your job to hoodwink and bully your massively unfriendly Arab neighbours until you've reached a position of unassailable power in the Middle East. Also, an easy to use menu driven environment makes *Conflict* a joy to play. OK, so it's not a patch on more grandious (and expensive) power thrillers but for that price it acts as a more than acceptable allternative.

FOOTBALL MANAGER

Pocket Power • £2.99

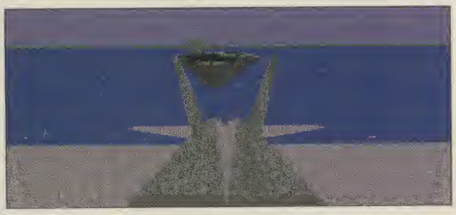


So, you reckon football management games are stupid, pointless and dull? Well, you're probably right, and you'll find it hard to find a game quite as bad as this. Even so, it's just one of a score of cheap football games which loiter around the games charts every week.

It's also made its way into a million and one software collections, and boasts ridiculously dedicated followers around the country. *Football Manager* is heading up a new range of 16-bit budget games priced at a tempting £2.99, and you would be well advised to seek out a Pocket Power rack at your local newsagent, garage or even software dealer.

INTERCEPTOR

Classic Collection • £10.99



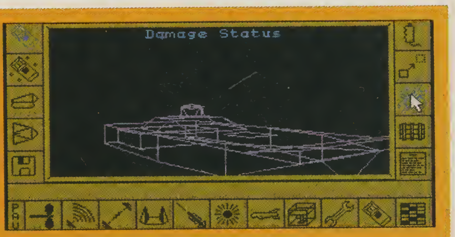
Electronic Arts' fullsome flight simulator tips over the £10 mark, but it's worth digging out that extra coinage. For a game that's nearly as old as the Amiga itself, *Interceptor* is admirably well crafted. Your jet fighter is easy to handle, and there are plenty of scraps to keep your furrowed brow sweating.

Landscapes are pretty if slightly less than detailed, and out of cockpit views are a treat. There's no need to fear a barrage of baffling information, this flight sim lets you get into the air quickly and without fuss.

CARRIER COMMAND

Mirror Image • £9.99

Rated by many as one of the best games ever for the Amiga, *Carrier* is a realtime simulation of life aboard an active assault fighter ship. Superlative programming and a grand feeling of "being there" make it one of those games you really should have in your collection. There are plenty of weapons for your amusement including amphibious tanks and high speed aircraft., all of which can be customised to your particular requirements. Plus you can get in some spying during those quiet moments.



Arguably the best game you can buy at that price.

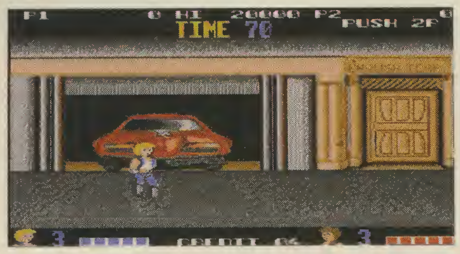
Incidentally, Mirror Image is a budget label worth watching. Other titles include *Xenon II, 3D Pool, Strike Force Harrier* and *Defender of the Crown.*

COLLECTING COMPILATIONS

Don't forget to look out for games compilations. These usually cost about £12 to £15, and feature between four and six games. However, some can be a false economy. Publishers often bundle games of a similar nature together (a driving, James Bond or flight sim collection for example) which can become a little tiresome. Also, compilations which feature a few big names often hide the fact that there's at least one terrible game lurking in the box. The only other downside is that each game does not come with its own packaging and documentation can be scant.

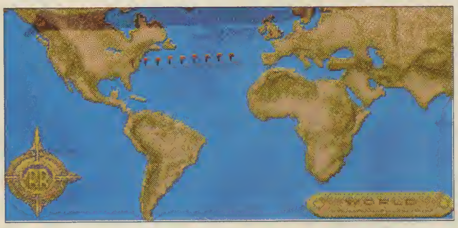
Continued on page 16 ➤

DOUBLE DRAGON
16-Blitz Plus • £9.99



It's just one of a babble of beat-'em-ups you can choose from including such classics as *International Karate Plus, Last Ninja II* (Hit Squad) and *Barbarian II* (Kixx). You know the score; find your ugly opponents, give them a sound beating, and save the girl of your dreams. Such is the game's impact that Hollywood is planning to use it as the basis of an action movie....

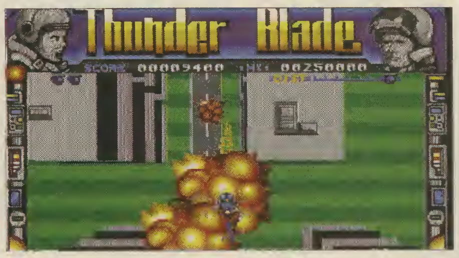
ROCKET RANGER
Mirror Image • £9.99



Even at full price this was considered to be a game worthy of anyone's shopping list. At under a tenner it's almost an imperative purchase.

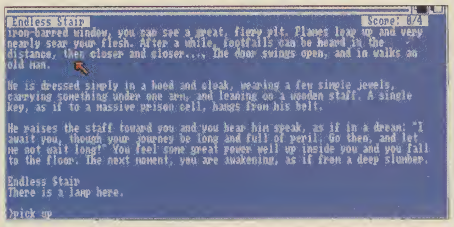
Rocket Ranger is one of those 'interactive movie' games which move swiftly from one effervescently illustrated scene to another. The plot rests on an American (you) stopping the Nazis dropping a mega-bomb on the White House. There are plenty of mini-adventures to complete and, while none are especially challenging, they all hold enough intrigue to keep you bashing those bloody Germans.

THUNDER BLADE
Kixx • £7.99



Hold on to your stomach, unscramble your brains, and get ready to steer an extraordinarily large helicoptor through swarms of hi-tech hardware. Kixx's coin-op conversion takes you through multifarious levels of hardball aerial warfare. Other big names in the Kixx collection include *Gauntlet II, Driller, Out Run, California Games* and *Blasteroids.*

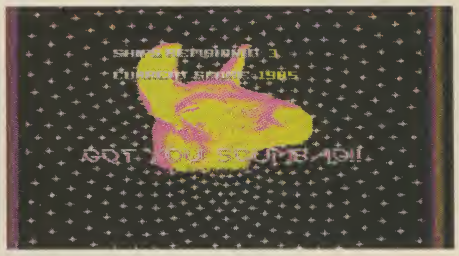
ZORK III
Mastertronic • £9.99



```
Endless Stair                                                Score: 8/4
iron-barred window, you can see a great, fiery pit. Flames leap up and very
nearly sear your flesh. After a while, footfalls can be heard in the
distance, then closer and closer.... The door swings open, and in walks an
old man.

He is dressed simply in a hood and cloak, wearing a few simple jewels,
carrying something under one arm, and leaning on a wooden staff. A single
key, as if to a massive prison cell, hangs from his belt.

He raises the staff toward you and you hear him speak, as if in a dream: "I
await you, though your journey be long and full of peril. Go then, and let
me not wait long!" You feel some great power well up inside you and you fall
to the floor. The next moment, you are awakening, as if from a deep slumber.

Endless Stair
There is a lamp here.

>pick up
```

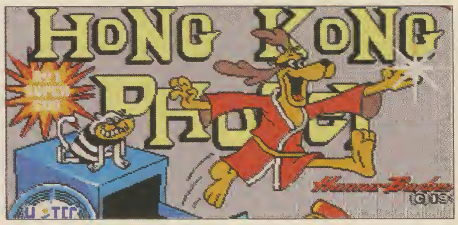
Anyone who likes nothing better than sneaking around dark and dingy dungeons with a bunch of weirdos, monsters and creeps will have heard of Infocom. ***Zork III*** is one of many underworld adventures which have recently been making a re-appearance in the cheap zone, courtesy of Mastertronic. Those young pups of adventurers used to graphical interfaces and pretty pictures will be disappointed, This is a text only yarn featuring plenty of options but nothing else. Even so, now you've booted up, you'll find it nigh impossible to reach for the eject button.

SUPER GRIDRUNNER
Action Sixteen • £7.99



A real blast from the past for pre-Amiga gaming veterans. Llamasoft's alien wasting exercise brings back happy memories of hundreds of C64 shoot'em-ups. It hardly suffers from an overload of features or tricks, but for fun and excitement it's a corker from start to finish. Prepare to terminate the attacking Slimelord hordes from the planet Xtharrg...

HONG KONG PHOOEY
Hi-Tec • £6.99



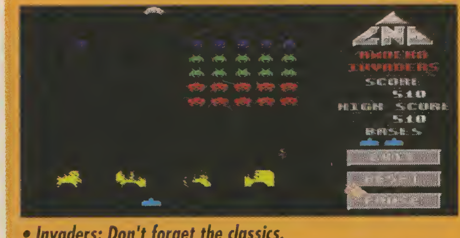
Hi-Tec has scooped a wacky line up of Hanna Barbera cartoons and, for the most part, succeeded in translating them to home computer formats. ***Hong Kong Phooey*** is the best of the bunch with bright and cheerful graphics, pleasant enough gameplay, and those little touches which made the Number One Super Guy such a laugh in the first place.

Both Hi-Tec and Alternative Software have landed nice litle earners by converting well known characters into low-cost games. Others include *Postman Pat, Atom Ant, Wile E Coyote* and *Bugs Bunny.*

AMIGA PD GAMES PACK A FIERCE PUNCH

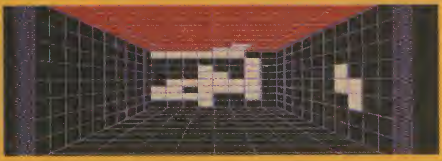
The PD scene has produced some really excellent Amiga games over the years, *writes Frank O'Conner.*

The main advantage of PD software is that it is completely free (although the PD companies invariably charge for discs and postage). The quality of PD games varies wildly, from the undeniably atrocious, to really professional pieces of entertainment software.



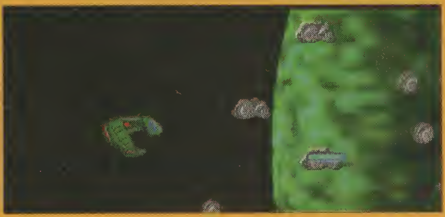
• Invaders: Don't forget the classics.

Some of the games that have emerged have been very impressive indeed. Almost without exception they have been rip-offs of arcade machines. Very few original ideas appear on the PD circuit, but some of these have been pulled off with enough style and wit to merit another mention.



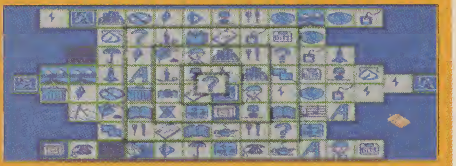
• Welltrix: High playability rating

The list includes classics like *Ballonacy*, a bizarre variation on the bomber theme wherein you fly a balloon and bomb skyscrapers. It's simple and fun. Fans of the arcade machine *Arkanoid* have dozens of ball-batting copies to choose from. One of the best of these is *Arcadia*, a fairly accurate and polished copy.



• Xsysts: Surreal fun.

Amoeba Invaders is a brilliant shoot-'em-up which has only recently appeared on the scene, it has excellent graphics and sound and is outrageously addictive. Also very addictive and slightly simpler, is *Drip*, a maze puzzle game where you have to colour a meanie infested pipeline. Great fun!



• Tiles: Infuritating puzzler

Welltrix is a clone of the *Tetris* sequel *Weltris.* It maintains all the playability of the original game. Strategy fans who want to use their brains could try *Tiles*, a version of the classic boardgame *Shanghai.*

You can't go wrong with PD games, simply because they cost nothing more than the price of stamp and a disk. Also, the list of titles is endless. Just try any of the big PD companies (most advertise in *Express* regularly) and ask for a catalogue, you'll be glad you did.

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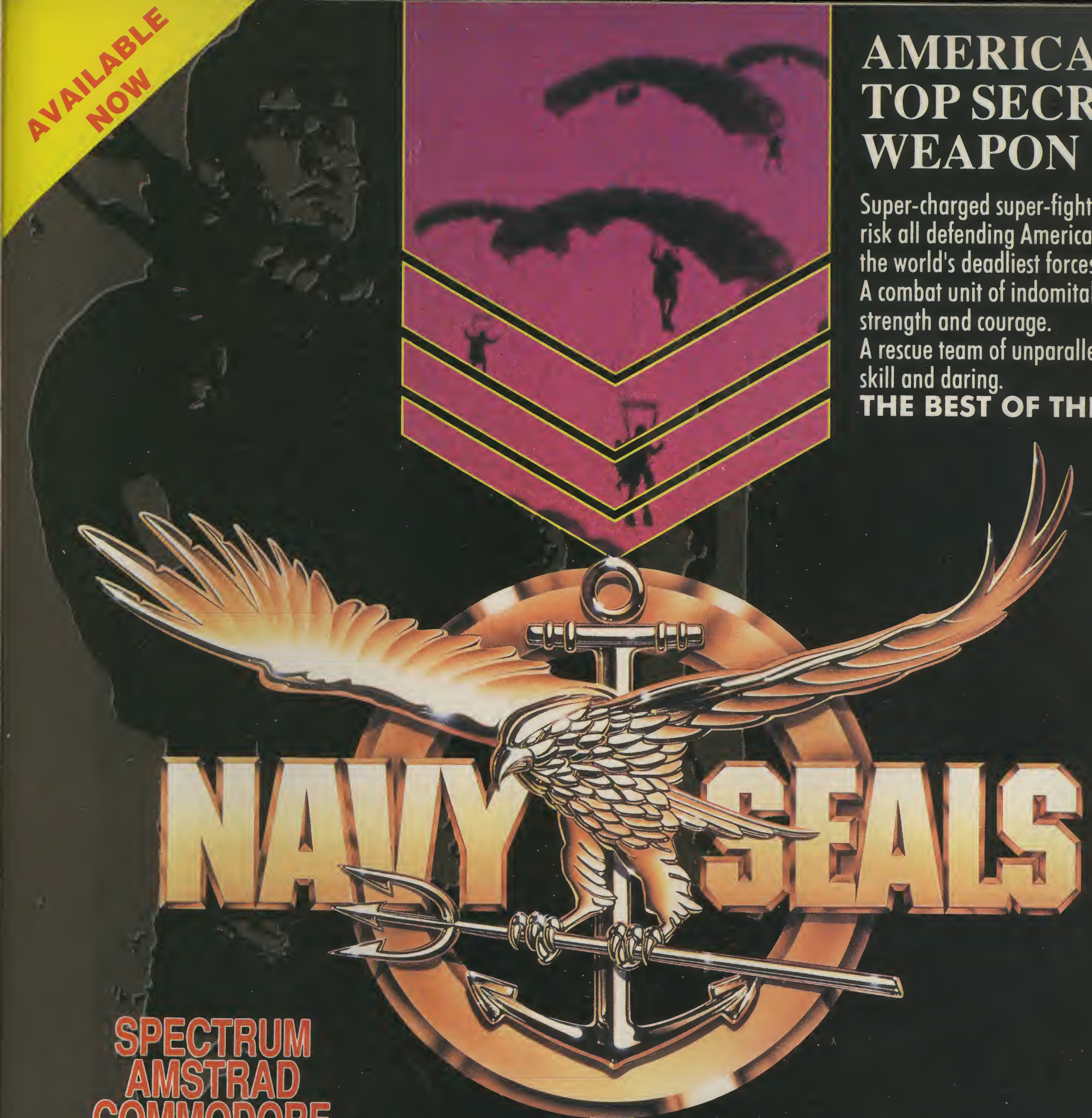

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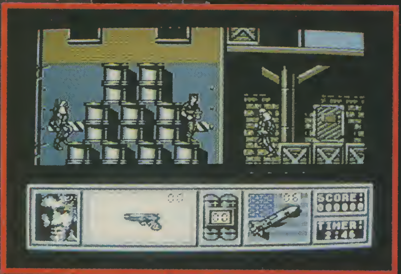

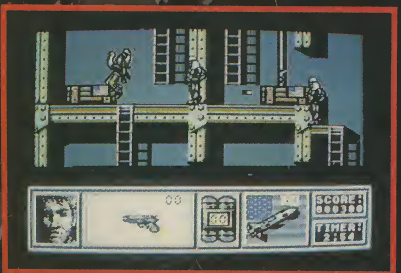

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WHAT A LOAD OF RUBBISH!

Games software has a short history made ever more lively by the follies and incompetence of its producers. *Express* picks through the dustbin of the past ten years, and makes some very unpleasant discoveries...

HOW LOW CAN YOU GO?

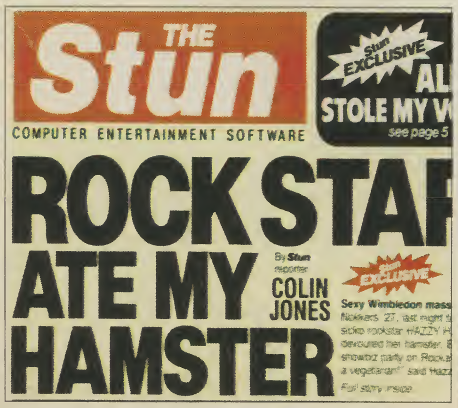
• *Vixen: A cheap game needs cheap publicity*

When it comes to achieving notoriety, the best policy is to be unflinchingly offensive. The more stupidly insensitive the game, the better its chances of entering the hallowed Hall of Infamy.

Take a certain Japanese company which figured that young games players are just the sort of chaps who go for games about chasing women. Unfortunately, the software authors went just a jot too far when they produced a little item entitled...***Rape***.

The idea was indeed to chase women, but some may say that bearing down on innocent teenagers in a Tokyo car-park is hardly in the spirit of conscientious game plots. Points were scored for acts of illegality, immorality and, of course, violence.

Naturally, *Rape* was an enormous hit, even after Japanese womens rights groups took to the streets in volumous protest, prompting some bad publicity.



THE Stun

COMPUTER ENTERTAINMENT SOFTWARE

Stun EXCLUSIVE

AL

STOLE MY V

see page 5

ROCK STA

ATE MY HAMSTER

By Stun reporter COLIN JONES

Stun EXCLUSIVE

Sexy Wimbledon mass

• *Rock Star Ate My Hamster: Good game, offensive manual.*

Here, the only game to really whip up protest was ***Raid Over Moscow***, wherein 'your job' was to drop a few megatons of high explosives over that noble city. After a confrontation with banner wielding peace people, publisher US Gold decided that maybe it was a bit over the top. The name was changed to *Raid Over Berlin*, and the time frame was re-adjusted to 1945.

But it's sex rather than violence which raises the highest emotions. A certain Mr Paul Burgess's blood was boiling when Heathrow customs officials seized a shipment of games he was importing from the US to Britain. "It's a brutal, fascist regime stopping simple software coming in," he wailed. The "simple software" was called, simply, ***Sex Vixens From Space***.

> **'Psycho Pigs UXB was such a bad game that an ad campaign of admirably poor taste was deemed necessary'**

The British fetish for schoolboy sexism doesn't stop there. Companies have been criticised for running salacious ad campaigns, and they haven't often repented. Martech's ***Vixen***, for example, was promoted with the help of an outrageous picture of what can best be described as a scantily clad curvacious lovely. It prompted murmers of protest here, but to Germans, the word Vixen, chimes remarkably well with their word for "fuck". When German buyers were presented with the packaging there was an absolute storm. The name was changed to save the blushes of games buyers.

US Gold's ***Psycho Pig UXB*** was such a bad game, that an ad campaign of admirably poor taste was deemed necessary. It concentrated itself on two young lads comparing software (favourably) with another curvacious lovely. The Advertising Standards Authority was somewhat less than amused.

More recently, French firm Ubisoft's use of cheap sexual imagery was paraded by the ever watchful ASA. Ads for ***Ranx***, featuring a man and woman in unmistakeable embrace. The catch-line "Your mother wouldn't like it" was evidently accurate.

Code Masters' ***Rock Star Ate My Hamster*** was booted out of leading retail stores for a short time, after it was discovered that an included booklet featured jokes about "glue sniffing and screwing". This, it was agreed, was not the sort of material which stores could justifiably present to their pre-teen customers.

Skweek, a cutesy affair from US Gold, was pulled for a short time after seething mothers made it apparent that some wit of a programmer had bolted a bug onto the game prompting the furry star to start shouting shocking four letter expletives at the faintest opportunity.

Mirrorsoft never had any intention of shipping obnoxious software, especially after his supreme mightyness Robert Maxwell got wind from Amnesty International (no less) that the otherwise impressive ***Killing Cloud*** featured torture sequences. Maxwell boomed out orders, and the sequences were dropped.

Spare a thought for a small company called Shareware 1990s. Last year it released a perfectly innocent game called ***Bad-Bad***. The seriously low-budget maze game was centred around a 16-year-old girl, and her attempts to abscond with her sweetheart. Hacks from the *News of the World* were dutifully informed of this outrage and came up with the memorable headline, "We Expose Computer Kiddy Porn". Remember, to court controversy you don't have to be controversial.

Continued on page 20 ➤

VIDEO NAZIS

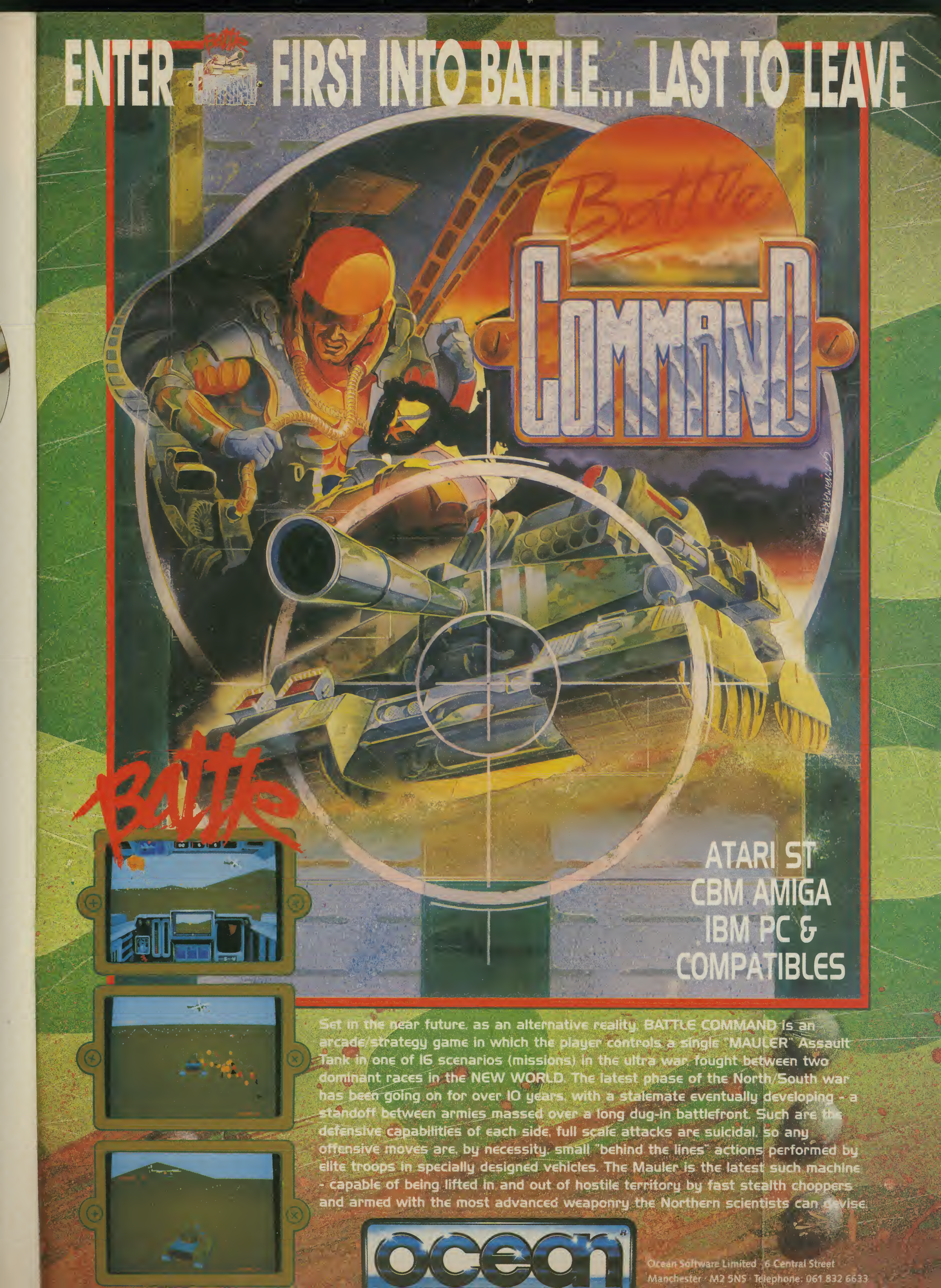
• *Silent Service: Unreasonable Nazi link*

In Germany, the best way to be offensive is to start gloryfying Nazism. Government and media are, not surprisingly, super sensitive when it comes to swastikas, jackboots and the like.

Although that country has suffered from the presence of a few pieces of software too nasty to describe, it was perhaps a little unfair to ban MicroProse's *Silent Service*, on the grounds that it promoted warfare.

German censors , infuriated by pro-Nazi Public Domain games were extra keen to catch out commercial programs. Prose's excellent game did feature insignia from the last war, but the company contested the ban, and eventually won the case.

Now official censors are working on stamping out neo-Nazi sponsored games based around grim Holocaust atrocities.



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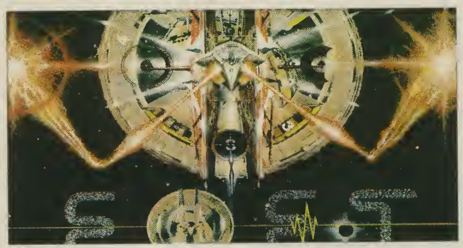
TRULY AWFUL GAMES

Publishing a rubbish game is not as simple as it sounds. Any knucklehead can write a game, but getting it into the shops is an art.

It is generally agreed that US Gold's ***World Cup Carnival*** is the worst game ever. This accolade would never have ben achieved were it not for a brilliant flash of genius. It was during the glorious World Cup of 1986 that Gold decided a World Cup game would be a good way of exploiting prevailing market demands. Gold promptly fell on a (poor) two-year-old game, hacked a couple of sequences at either end of the program, and slapped two quid extra on the price.

Amiga owners will be familiar with Gremlin's ***Federation of Free Traders***. (*FOFT*). Not only was this game desperate, dismal and dull, it was also supplied with a totally inadequate manual, looked just a mite too much like the classic *Elite*, and it was riddled with bugs. These days, the folk at Gremlin rarely find cause to talk about *FOFT*.



• *FOFT: Fell lamentably short of expectations*

Those golden boys at Ocean have also managed a few howlers, the most remarkable of which must be ***Eco***. Billed as an evolution simulation, it offered the intriguing opportunity of nurturing primitive life forms towards some semblance of animal life. Gamers thought they were too thick to understand the game when it was launched, they just couldn't get anything to happen. For many it was too late when they realised that starting the game and finishing it were just about the same thing.

When Dirty Den was all the rage Macsen, a strange little outfit from Wales, produced an ***Eastenders*** game. Is being Lofty your kind of fun? Well, it wasn't anyone else's either (not even Tom Watts, and he was paid to do it). The game was a disaster, as was Argus's soap opera farce of the same year, ***Grange Hill***. We await *Neighbours* with rapturous enthusiasm.

• *Eastenders on computer just didn't work*

Other excruciating games include Domark's ***Friday the 13th*** (programmed by teachers), Argus's ***Max Headroom*** (which had nothing to do with the actual character) and a compilation from Rainbird called ***Don't Buy This*** - it featured a selection of the day's most appalling games, all of which would otherwise have been doomed to obscurity.

THEY NEVER MADE IT...

Mirrorsoft is a company which takes itself very seriously. So when certain magazines (er...us) started reporting that its excellent ***Dungeon Master*** would not be coming out on the Amiga 500 (it was already available for 1Mb machines), Mirrorsoft's boys became quite agitated.

• *Scoobie Doo: Elite wasted pounds and hours.*

UK boss Peter Bilotta had this to say: "We're in daily contact with the game's producers and we know that an Amiga 500 version is almost there in terms of quality. We hope to have it out on sale by the second quarter." That was in the first quarter of 1989.

Despite a gruelling production schedule *Dungeon Master* never made it. Programers FTL just couldn't squeeze the game down.

Likewise, Telecomsoft was happily hyping an adventure epic called ***Lasers and Labrynths***, until the programming team responsible for the project "ceased trading". It seems that the programmers just couldn't be bothered to see the project through. Their agent at the time commented: "They just said they couldn't finish it. They took it so casually, kind of like cancelling a dinner engagement." Telecomsoft waved goodbye to wads of cash, and the company no longer exists.

Other unfortunate money wasters include Activision, which dropped a five-figure sum on an effort called ***Lock-On***. The coin-op conversion was so dreadful that Activision abandoned the idea.

And Elite was burning the midnight oil in an attempt to stun the world with a cinematic game based on telly dog ***Scooby Doo***. After two years the company admitted defeat. Now Hi–Tec has launched a respectable version, which is definitely worth a look.

Rainbird wasted up to £100,000 on its mega-project ***Reach for the Moon*** before realising that it wasn't coming together. Gamers had been reading about this amazing project for months, before they were told that it would never be.

BETTER LATE THAN NEVER?

Star Trek was to be the greatest game of the 1980s. Publisher Telecomsoft was promising a triumph in interactive entertainment. Unfortunately, things did not go to plan. Telecom announce its licence coup in 1986, and at that autumn's PCW Show in London, an impressive and costly stand was erected in the fashion of the Starship Enterprise's bridge.

ROOM
INV
WEAPONS
DOWN
UP
OPEN
CLOSE
LOCK
UNLOCK
LOOK IN
EXAMINE
MIX
CONSUME
USE
THROW
PAUSE
SAVE
RESTORE

• *Elvira: Took so long she sank Tynesoft*

Due to the fussiness of the licensor in the US, Telecom's programmers had to send over every single graphic, which the licensor would often insist be modified. The game finally crept out in 1988, on the ST only.

For lateness *Star Trek* can hardly be surpassed, but ***Elvira*** took Tynesoft a year to produce, before it went bust and the project was given to Accolade. ■

REACH FOR YOUR LAWYERS

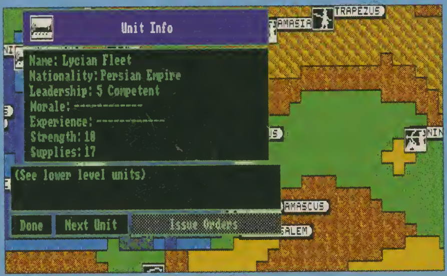
There are many approaches to sending a man sprawling over his treasure chest with wide-eyed fear, but the best is to rip off his work.

Take the saga of *R-Type* and *Katakis*. Just as Activision was preparing a coin-op conversion of sideways scrolling shoot-'em-up *R-Type*, US Gold announced a completely seperate game called *Katakis*. Trouble was, few could tell any major differences between the two games.

Activision duly insisted that the game's name be changed (eventually to *Denaris*), that the game be altered and that the launch-date be set-back a few months. Cheeky Activision then hired the team responsible for *Katakis* (Rainbow Arts) to write the Amiga version of *R-Type*. Both titles were extremely successful and everyone went away happy.

Not so with Martech's *Phantom Fighter*. The firm sent out an incomplete demo to various magazines, which was then reviewed as a full game by *Commodore User*. Martech probably wouldn't have minded, but *CU* slagged the game out of sight. A legal rumpus then ensued which rumbled on until Martech finally went bust.

Poor US Gold was ever-so miffed after announcing that it would be publishing *Universal Simulator II*. Unfortunately, the programming team, Intergalactic, had a change of heart at the last moment, and MicroProse ended up with the scoop. US Gold's Tim Chaney complained bitterly that a "gentleman's agreement" had been smashed.



Name: Lycian Fleet
Nationality: Persian Empire
Leadership: 5 Competent
Morale: ------------
Experience: ------------
Strength: 10
Supplies: 17
(See lower level units)

• *UMS II: battle over battle game*

A mini-war broke out between Grand Slam and Vivid Images after both claimed to have secured the licence to produce *Liverpool FC* games. It turned out that one had secured the rights to the club licence, and the other had won the team licence. Oh dear.

Domark's attempts to produce a game based on classic TV bingo quiz show *Bob's Full House* ran aground after Mr Monkhouse's agents decided that their man should not be featured. Domark had paid for the rights to the TV show, but had not been granted the rights to the man. Unlucky for some, as they say.

The best way to start a real rumpus is to hit a country right in the middle of its financial institutions. Lazy buffoons in the Stock Exchange were totally engrossed in *Leisure Suit Larry*, until a hideous virus emerged to trash loads of systems.

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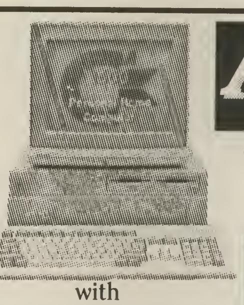

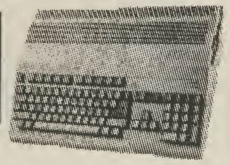

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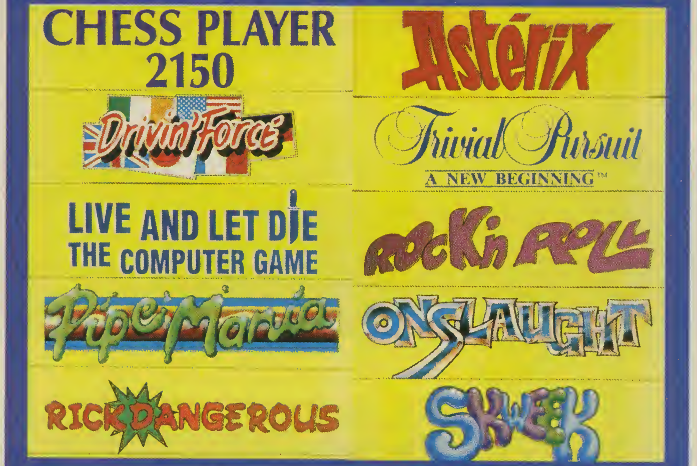

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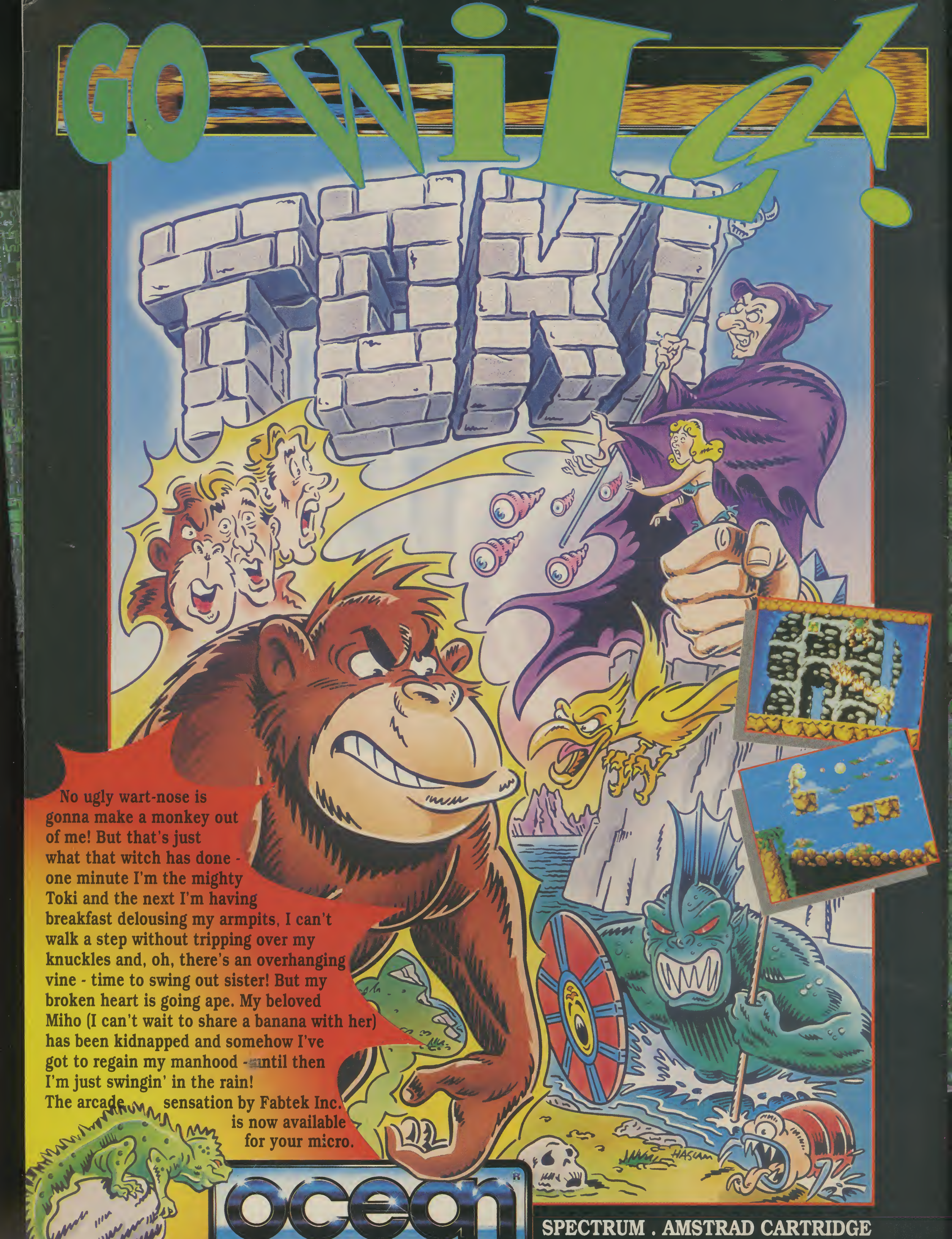

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